

ROGER TOURANGEAU, PhD, 4-8-09

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1 IN THE UNITED STATES DISTRICT COURT FOR THE
2 NORTHERN DISTRICT OF OKLAHOMA
3
4

5 W. A. DREW EDMONDSON, in his)
6 capacity as ATTORNEY GENERAL)
7 OF THE STATE OF OKLAHOMA and)
8 OKLAHOMA SECRETARY OF THE)
9 ENVIRONMENT C. MILES TOLBERT,)
10 in his capacity as the)
11 TRUSTEE FOR NATURAL RESOURCES)
12 FOR THE STATE OF OKLAHOMA,)

13 Plaintiff,)

14 vs.)

4:05-CV-00329-TCK-SAJ

15 TYSON FOODS, INC., et al,)

16 Defendants.)

17 - - - - -
18 THE VIDEOTAPED DEPOSITION OF
19 ROGER TOURANGEAU, PhD, produced as a witness on
20 behalf of the Defendants in the above styled and
21 numbered cause, taken on the 8th day of April, 2009,
22 in the City of Tulsa, County of Tulsa, State of
23 Oklahoma, before me, Lisa A. Steinmeyer, a Certified
24 Shorthand Reporter, duly certified under and by
25 virtue of the laws of the State of Oklahoma.

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A P P E A R A N C E S

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-and-

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FOR GEORGE'S: Mr. James Graves
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Fayetteville, AR 72701

ALSO PRESENT: Mr. William Desvougues

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I N D E X

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1 (Whereupon, the deposition began at
2 8:30 a.m.)

3 VIDEOGRAPHER: We are now on the Record for
4 the deposition of Dr. Roger Tourangeau. Today is
5 April 8th, 2009. The time is 8:30 a.m. Counsel, 08:30AM
6 please identify yourselves for the Record.

7 MR. DEIHL: This is Colin Deihl here on
8 behalf of Cargill.

9 MR. HIXON: Phillip Hixon on behalf of
10 Peterson Farms. 08:31AM

11 MS. XIDIS: Claire Xidis on behalf the
12 State of Oklahoma.

13 MS. MOLL: Ingrid Moll for the State of
14 Oklahoma.

15 VIDEOGRAPHER: Thank you. You may swear in 08:31AM
16 the witness.

17 ROGER TOURANGEAU, PhD
18 having first been duly sworn to testify the truth,
19 the whole truth and nothing but the truth, testified
20 as follows:

21 DIRECT EXAMINATION

22 BY MR. DEIHL:

23 Q Please state your name for the Record.

24 A Roger Tourangeau.

25 Q And what is your home and work address, Dr. 08:31AM

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1 Tourangeau?

2 **A** I live at 237 Amberly Drive, Silver Springs,
3 Maryland, and my work address is the Institute For
4 Social Research, University of Michigan, Ann Arbor,
5 Michigan.

08:31AM

6 **Q** Have you ever been deposed before?

7 **A** Yes.

8 **Q** How many times?

9 **A** This is my second time.

10 **Q** Tell me about the first case you were deposed
11 in.

08:31AM

12 **A** It was a trademark infringement case. It
13 happened about a couple of years ago.

14 **Q** And did you offer an expert opinion in that
15 case?

08:32AM

16 **A** I did.

17 **Q** What was the nature of your expert opinion?

18 **A** I commented -- I actually had done some
19 methodological studies in response to a study that
20 the other side had done in that particular case.

08:32AM

21 **Q** What did you do to prepare for your deposition
22 here today?

23 **A** I reread the portions of the report that I was
24 involved with, our report, and then I also spent
25 some time with Ingrid Moll and Claire Xidis

08:32AM

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1 yesterday just getting ready. They were telling me
2 what to expect and so on.

3 Q Okay. How much time did you spend with Ingrid
4 Moll and Claire Xidis yesterday?

5 A About four hours. 08:32AM

6 Q And what did you talk about?

7 A Mostly what to expect today. I spent some
8 time reviewing David Chapman's transcript with them.
9 David was there yesterday with us. We just went
10 over, as I said, what was likely to happen today. 08:33AM

11 Q What did Mr. Chapman tell you about his
12 deposition?

13 A Well, we had the transcript with us and we
14 went over, you know, different portions of it. You
15 know, we talked about it at some length, but I don't 08:33AM
16 remember the specific topics. We just basically
17 went over what he said and what had happened and who
18 you were.

19 Q Did the attorneys talk to you about the
20 deposition process, what's going to happen here 08:33AM
21 today?

22 A Yeah. They explained what was going to happen
23 here today.

24 Q You understand that I'm going to be asking you
25 a series of questions and you're going to be giving 08:33AM

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1 answers to the questions and the court reporter is
2 taking down our questions and answers?

3 A Yes, that's right.

4 Q And if you don't understand one of my
5 questions, will you let me know that?

08:34AM

6 A I will.

7 Q And if you need a break at any time, will you
8 let me know that.

9 A Okay.

10 Q The only thing I'd ask is if you can make sure
11 I'm finished with my question before you give an
12 answer because the court reporter can't record both
13 of us talking at one time. Is that fair?

08:34AM

14 A That's fair.

15 Q Now, you've been retained as an expert witness
16 in this matter; correct?

08:34AM

17 A That's right.

18 Q What do you believe you are qualified to
19 testify about; in other words, what do you believe
20 you're qualified to be designated as an expert in?

08:34AM

21 A I consider myself an expert in survey
22 methodology.

23 Q Anything else?

24 A Certain parts of statistics, data analysis.

25 Q Anything else?

08:35AM

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1 **A** No.

2 **Q** Dr. Tourangeau, I've handed you what's been
3 marked for purposes of identification as Deposition
4 Exhibit No. 1. Can you identify this document?

5 **A** This is my vitae. 08:36AM

6 **Q** Is this a current copy of your vitae?

7 **A** Yes, it seems to be.

8 **Q** Is the information contained on this vitae
9 accurate?

10 **A** To the best of my knowledge. 08:36AM

11 **Q** Your vitae indicates that you're a research
12 professor, Survey Research Center, University of
13 Michigan; is that correct?

14 **A** That's right.

15 **Q** Do you currently teach classes at the 08:36AM
16 University of Michigan?

17 **A** I'm on sabbatical this year, so I'm not
18 teaching any classes.

19 **Q** Are you currently working on any research
20 projects? 08:36AM

21 **A** Yes, I'm working on several research projects.

22 **Q** Can you describe those for me, please?

23 **A** Okay. The first project I'm involved with is
24 a series of methodological investigations on web
25 surveys. In particular, we're looking at three 08:37AM

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1 aspects of web surveys. The first aspect is the --
2 how the visual character of web surveys changes the
3 response process. So we've looked at things like
4 how the position of an item on screen might affect
5 the answers or how people formulate their responses.

08:37AM

6 Another aspect of web survey we looked at is
7 how to harness the fact that questionnaires can
8 interact with the respondent. So, for instance,
9 when we ask people to give numbers that ought to add
10 up, does it help to give them a running tally of
11 their answers.

08:37AM

12 A third aspect of the web survey that we've
13 looked at in this research is how -- the visual
14 layout of the screen, the presence of extraneous
15 elements, sort of visual clutter can affect how
16 people answer questions in web surveys and whether
17 they efficiently navigate through the screen. So
18 that's one line of research that I'm involved in is
19 different aspects of web surveys and how to make web
20 surveys better and yield better data.

08:37AM

21 A second project I'm involved with is looking
22 at the use of a particular statistical technique,
23 latent class modeling, in order to better understand
24 measurement error, and so we've done a series of
25 studies where, for example, we know what the true

08:38AM

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1 answer is for a particular person. We did a study
2 of Maryland alumni, and we had their academic case
3 transcripts, and we asked them various questions
4 about their academic record and we were able to
5 compare their answers. Anyway, we used these latent 08:38AM
6 class models and see how well they produced the
7 result from this true score analysis. So that's a
8 second line of research I'm involved with.

9 A third line of research -- this has got to be
10 really dull for you guys. A third line of research 08:38AM
11 I've been involved with is looking at the
12 circumstances in which non-response and measurement
13 error may be linked. So a big concern among survey
14 researchers these days is that its response rates
15 are declining, and that may or may not have a 08:39AM
16 negative effect on the accuracy of estimates from
17 surveys, but there's a concern that if you work real
18 hard to bring people into surveys, that they may not
19 be particularly good respondents. So there could be
20 a tradeoff between getting a high response rate and 08:39AM
21 getting accurate answers from respondents. So
22 that's what this line of research is about. We've
23 done various experiments to look at is there really
24 a relationship between non-response error and
25 measurement error. 08:39AM

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1 Q Have you reached any conclusion on the third
2 area of inquiry that you're involved in,
3 non-response rates and measurement error?

4 A It's been a complicated -- I hesitate to try
5 to give a brief summary of our findings. It's been 08:39AM
6 a complicated line of research, and it's still
7 pending. I mean, we're still doing this work, and I
8 hesitate to try and give a headline. I'm not sure
9 what the headline is going to be yet.

10 Q Okay. Are you intending to publish that 08:40AM
11 research?

12 A Some of it has already been published or is in
13 the pipeline, yes.

14 Q Okay. What's it been published in; is it
15 reflected in your CV? 08:40AM

16 A Let's see if it is reflected in my CV. No,
17 nothing is on here yet. There's a paper that's in
18 press at the Journal of Official Statistics.
19 Tourangeau Bros., et al, and there's another paper
20 that's under review right now at Public Opinion 08:40AM
21 Quarterly. So they really are in the pipeline.

22 Q On your CV from 1991 to '97 you were research
23 vice president and senior scientist at NORC?

24 A That's right.

25 Q What is NORC? 08:41AM

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1 **A** Yes, it seems to be.

2 **Q** And did you do any work on this matter prior
3 to executing this retainer agreement?

4 **A** I am not good on the dates. I was involved in
5 helping plan the recreational use study at the river 08:43AM
6 and lake, and I'm not sure whether that was directly
7 with Stratus and predated this. I just don't
8 remember.

9 **Q** So you did some work on the -- when you say
10 the recreational user study, that's the -- 08:43AM

11 **A** Intercept study.

12 **Q** Where people intercepted users of the
13 resource?

14 **A** That's right. I was involved in planning the
15 sample design for that. 08:43AM

16 **Q** Okay, and were you retained in connection with
17 that by Stratus directly?

18 **A** If it predated this agreement, yes.

19 **Q** Okay. Did you bill Stratus and Motley Rice
20 separately? 08:43AM

21 **A** I only remember billing Motley Rice. I really
22 don't remember that, the arrangement I had for the
23 recreational use study.

24 **Q** Have you kept track of your fees in connection
25 with this matter? 08:44AM

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1 **A** For Motley Rice, yes.

2 **Q** And what are those fees to date?

3 **A** Including expenses, around \$150,000.

4 **Q** And in addition to that, you also billed

5 Stratus for some work; is that correct? 08:44AM

6 **A** I don't remember.

7 **Q** You don't have records of any of those bills?

8 **A** I could probably find some records, but it

9 would have been a very small amount. I had, you

10 know, a very light involvement in planning this 08:44AM

11 other study, and I'm not sure whether it fell under

12 this agreement or was under a separate agreement. I

13 just don't remember.

14 **Q** The Professional Services Retainer Agreement,

15 Exhibit 2, that's in front of you in Paragraph 2 08:44AM

16 states that you are to bill Motley Rice monthly with

17 a statement of work performed. Do you see that?

18 **A** Yes.

19 **Q** Did you do that?

20 **A** No. 08:44AM

21 **Q** How come?

22 **A** There were periods where there was not much

23 going on on the project, and so I wouldn't submit

24 monthly invoices. I basically submitted invoices as

25 I did work. 08:45AM

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1 Q Okay, but you did submit invoices to Motley
2 Rice?

3 A Yes, and pretty regularly.

4 Q Okay.

5 MR. DEIHL: Counsel, I don't think those 08:45AM
6 invoices were included in the materials that were
7 provided to us and would ask that they be provided
8 to us.

9 MS. XIDIS: If you'll provide us with a
10 written request, we'll work on it. 08:45AM

11 MR. DEIHL: I think they're part of the
12 considered materials, but we will do so.

13 Q And in those invoices you described the work
14 that you did for Motley Rice?

15 A Yes. 08:45AM

16 Q In Paragraph 3 it indicates that you're to
17 prepare a work plan and detailed budget. Did you do
18 that?

19 A No.

20 Q How come? 08:45AM

21 A They never asked for it. I don't know.

22 Q Okay. This retainer agreement indicates your
23 billing rate is \$250 per hour; is that correct?

24 A That's right.

25 Q Has that remained the same throughout this 08:46AM

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16

1 project?

2 **A** Yes, it has.

3 **Q** And then if you'd look at Paragraph 13, it

4 indicates that you are to preserve any written

5 materials, including E-mails. Do you see that?

08:46AM

6 **A** Yes.

7 **Q** Did you do that?

8 **A** I cache all the one I send. I don't cache all

9 the ones I receive.

10 **Q** Okay. Explain to me what that means.

08:46AM

11 **A** My system captures outgoing E-mails and I keep

12 all of those. I don't necessarily keep all the ones

13 that I receive. Usually I respond to E-mails I

14 receive. So it's a complete record to keep the ones

15 that I send.

08:46AM

16 **Q** Okay. So if an E-mail was sent to you in

17 connection with this matter and you didn't respond

18 to it, you wouldn't have a record of that?

19 **A** That's right.

20 **Q** How was it that you came to be hired in

08:46AM

21 connection with this matter?

22 **A** I'm reconstructing here. I really don't

23 remember. I'm fairly certain that David or Rich

24 Bishop, David Chapman or Rich Bishop would have

25 contacted me and asked me if I was interested in

08:47AM

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1 working on the case, and then I think I was -- I
2 passed along materials to them, which they passed
3 along with Motley Rice, and then I was retained by
4 Motley Rice.

5 Q What was your understanding of what you were 08:47AM
6 being asked to do at the time you were retained?

7 A To help with any survey work that was done in
8 connection with this case.

9 Q At the time you first started working on this
10 case, had Stratus already begun the recreational 08:48AM
11 intercept survey?

12 A I really can't remember.

13 Q Okay. Were you involved in the design of that
14 survey?

15 A I was definitely involved in the sampling 08:48AM
16 scheme, to make sure that, you know, a
17 representative sample of users during that period
18 was intercontacted and interviewed.

19 Q What was your input into the sampling scheme?

20 A It's been awhile. I think that survey was 08:48AM
21 done in Memorial Day 2006 as I recall. Is that
22 right?

23 Q It was done over the summer of 2006, correct.

24 A Yeah. As I recall, we tried to create a
25 sample of points of access to and from the lake and 08:48AM

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1 river for boaters and also capture other users like
2 anglers and so on as they came to and from the lake,
3 and so I must have received from Stratus a list of
4 all the access points and places where people might
5 go for recreation and so on, and tried to work out a 08:49AM
6 sort of time and space sample design to sort of
7 provide a representative sample of people who are
8 using the river and lake during that period.

9 Q Did you have an understanding of what the
10 purpose of that intercept survey was? 08:49AM

11 A I do. My understanding of the purpose of the
12 intercept survey was just, you know, have a chance
13 to talk with a representative sample of users of the
14 area to get their views.

15 Q Did you review the report that was produced by 08:49AM
16 Stratus on that intercept survey?

17 A Yes.

18 Q Did you have input into the drafting of that
19 report?

20 A I really don't remember. 08:50AM

21 Q Do you recall what the administration
22 protocols were in connection with that survey?

23 A I'm not sure what you mean by administration
24 protocols.

25 Q Okay. What -- what did you do in the design 08:50AM

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1 of the survey to make sure that the survey

2 accurately interviewed users of the resource and

3 resulted in accurate results?

4 **A** As I said, my basic role on that was kind of

5 limited on that survey. It was limited basically to 08:51AM

6 picking a sample and creating a sample design that I

7 believe Bill Breffle was in charge of carrying out,

8 and so, you know, I basically gave instructions

9 about where to go and how to, you know, contact

10 users, you know, how to get a good sample of users. 08:51AM

11 I didn't recall having much input on how exactly the

12 people who did the interviews carried them out.

13 It's possible I had conversations with Bill about

14 that, but I really just don't remember. It's been a

15 couple of years. 08:51AM

16 **Q** Do you recall what the survey revealed about

17 the overall likes and dislikes of Tenkiller Lake and

18 the Illinois River?

19 **A** No, not really.

20 **Q** What -- after that survey was completed, what 08:52AM

21 was the next thing you did on -- in connection with

22 this project?

23 **A** I think the next thing we did is we all came

24 down to Tulsa, the various authors of the report,

25 except for Barbara, who wasn't involved in the 08:52AM

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1 project at that point, Barbara Kanninen, and we met
2 with the lawyers and with the natural scientists and
3 had various conversations about, you know, the
4 situation at the river and lake. I think the

5 natural scientists made some presentations. David 08:52AM
6 Page, one of the attorneys, made some presentations.

7 We just basically had a sort of get-acquainted
8 meeting and started thinking about the project in
9 earnest, and Rich Bishop came and David Chapman and

10 others members of the research team. I can't 08:53AM

11 remember if Edward was there, but that was sort of
12 my introduction to the case and the project. As I
13 said, I had a limited involvement on this recreation
14 survey earlier than that, and I believe while we

15 were here, we also went out and visited the river 08:53AM
16 and lake.

17 Q Did you discuss the recreation survey at that
18 meeting?

19 A I don't think so.

20 Q What were you trying to learn from the 08:53AM
21 recreation survey?

22 A I think it was a very early exploratory study
23 just designed to see who comes here, what do they
24 come here for, what are their impressions of the
25 river and lake, like that. It -- it was really just 08:53AM

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1 let's get a representative picture of who uses this
2 place and what they're here for and like that.

3 Q And what conclusions did you draw?

4 A I don't think we drew any conclusions in
5 particular.

08:54AM

6 Q What involvement following -- strike that.
7 Following the intercept survey, you conducted a
8 telephone survey, correct, or Stratus conducted a
9 telephone survey?

10 A Consumer Logic conducted a telephone survey on
11 behalf of Stratus.

08:54AM

12 Q And what involvement did you have in that
13 telephone survey?

14 A I was involved in writing the questionnaire
15 and planning that study.

08:54AM

16 Q So you reviewed the questionnaire before it
17 was used; is that correct?

18 A Yeah. I may have even written some of the
19 items.

20 Q Okay. Did you participate in any interviewer
21 training?

08:54AM

22 A No, not on that particular study.

23 Q Did you review the survey results from that
24 telephone survey?

25 A We did; I did.

08:55AM

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1 Q Did you review the response rates from that
2 survey?

3 **A** I was aware of them at the time but, you know,
4 yes.

5 Q Did you have any involvement in writing the 08:55AM
6 report about the telephone survey?

7 **A** I'm sure I reviewed the report but I didn't
8 participate in writing it up.

9 Q Do you recall what the response rates were in
10 connection with that survey? 08:55AM

11 **A** I don't. I know that we weren't concerned
12 about getting a high response rate in that survey.
13 We were -- this was from our point of view a quick
14 and dirty exploratory study to get a sense of,
15 again, how people in Oklahoma thought about their 08:55AM
16 river and lake and what their, you know, views about
17 it were, how much they knew. We weren't attempting
18 to do a carefully crafted scientific study from
19 which we could draw generalized bulk conclusions.
20 For me it was basically like a giant focus group. 08:56AM

21 The -- well, and then we were also concerned
22 about the advertising campaign that the poultry
23 industry had put out and wanted to get a sense of
24 how many people were aware of this ad campaign, but
25 this was, as I say, a quick and dirty exploratory 08:56AM

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1 study and wasn't intended to support scientific
2 generalizations about the state or the population.

3 Q You were involved in designing the telephone
4 survey?

5 A I helped write the questions, yes. 08:56AM

6 Q Okay, and you viewed it as a quick and dirty
7 survey?

8 A Right.

9 Q Why is that?

10 A It was an exploratory survey. Why did I view 08:56AM
11 it that way?

12 Q Yeah. Explain to me why you viewed it that
13 way.

14 A It was very early. We were just trying to get
15 a feel for what people thought, and so, yeah, it 08:57AM
16 wasn't intended as the main thrust of our effort.
17 It was intended as an early preliminary exploratory
18 investigation.

19 Q At that time in the fall of 2006, were you
20 planning to do a contingent valuation survey? 08:57AM

21 A I don't remember.

22 Q Sitting here today you just don't know whether
23 or not you were planning to do a contingent
24 valuation survey?

25 A I really don't remember, no, I don't. 08:57AM

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1 Q Sure.

2 MR. DEIHL: Let's go off the Record for
3 just a minute, if we could.

4 VIDEOGRAPHER: We're off the Record.

5 (Whereupon, a discussion was held off 08:59AM
6 the Record.)

7 VIDEOGRAPHER: We are back on the Record at
8 9:04 a.m.

9 Q Dr. Tourangeau, I've handed you what's been
10 marked for purposes of identification as Deposition 09:05AM
11 Exhibit No. 3, which is the report on the intercept
12 survey. Have you seen this document before?

13 A Yes, I have.

14 Q And I think you said you were involved in
15 helping to draft this; is that right? 09:05AM

16 A I really don't remember.

17 Q If you'd look at the introduction, it spells
18 out what the goals of this study were; do you see
19 that?

20 A I do. 09:06AM

21 Q And one of the goals was an intercept survey
22 of recreation users that collected information on
23 type and amount of use, preferences, attitudes and
24 from where users were coming. Do you see that?

25 A Yes, I do. 09:06AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 Q And did this survey achieve that goal?

2 | **A** I don't know.

3 | Q You've reviewed this document before; correct?

4	A	Yeah.
---	----------	-------

5 Q Okay. In what connection -- in what capacity 09:06AM
6 did you review this document; why were you reviewing
7 it?

8 **A** I know I looked at it in preparation for my
9 deposition. I probably commented on it when it was
10 originally written, but I don't really remember. 09:06AM

11 Q Okay. Did you review it when you were in the
12 process of preparing for the telephone survey?

13 **A** I doubt it.

14 Q So this wasn't a piece of information that was
15 important to you as a researcher as you were 09:07AM
16 preparing the telephone survey?

17 **A** I think the telephone survey was done for
18 sufficiently different reasons, that we didn't look
19 at this very much, no.

20 Q What were the sufficiently different reasons 09:07AM
21 that the telephone survey was done for that caused
22 you not to look at this?

23 **A** This study was a study of recreational uses of
24 the lake as I recall, the intercept study. The
25 other study was just a more general endeavor 09:07AM

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ROGER TOURANGEAU, PhD, 4-8-09**27**

1 designed to look at people's impressions of the
2 river and the lake, including the impressions of our
3 non-users. In addition, it was designed to look at
4 the impact of this advertising campaign.

5 Q Well, this study looked at people's 09:08AM
6 impressions of the river and lake, did it not?

7 A Not primarily.

8 Q Why don't you take a look at Page 9? Table 2
9 states, thinking specifically about the Illinois
10 River-Tenkiller Lake, are there one or two things 09:08AM
11 you particularly like or dislike about recreation
12 here. Do you see that?

13 A I do see that it included this, yes.

14 Q And that was one of the questions that was
15 asked these recreational users during the summer of 09:08AM
16 2006; correct?

17 A I'm not sure where these data came from. Do
18 you mind if I look at the report?

19 Q You're welcome to look at the report.

20 A Yeah. Apparently this is one item out of 09:08AM
21 about a dozen in the survey, that's right.

22 Q Okay, and this was a question that was asked
23 the users of the resource; right?

24 A The people in the intercept survey, yes.

25 Q So the people in the intercept survey were 09:09AM

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ROGER TOURANGEAU, PhD, 4-8-09**28**

1 asked about their impressions of the river and the
2 lake; correct?

3 **A** That's true.

4 **Q** But you said that you didn't think that this
5 survey was important for you to look at when you 09:09AM
6 were doing the telephone survey because the
7 telephone survey was aimed at asking users about
8 their impressions of the resource?

9 MS. XIDIS: Objection to form.

10 **Q** Right? 09:09AM

11 **A** We didn't rely heavily on this survey in
12 designing another survey, no.

13 **Q** I understand you didn't. I'm trying to
14 understand why you didn't.

15 **A** There were many differences between the two 09:09AM
16 surveys. This was a face-to-face survey. It was a
17 survey of users. It was a survey of people who are
18 actually at the river and lake. You know, this was
19 one item out of a dozen that we asked in the
20 intercept survey. 09:09AM

21 **Q** Did you take the intercept survey into account
22 when you were designing the main study?

23 **A** No. I mean, in some general way I'm sure we
24 did, but it didn't heavily influence the design of
25 the questionnaire, no. We went through an extensive 09:10AM

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ROGER TOURANGEAU, PhD, 4-8-09**29**

1 process to design that questionnaire, and that's
2 what influenced the final form of that survey.

3 Q Okay. I think you said in some general sense
4 it influenced the study. How did it influence the
5 study?

09:10AM

6 A Could you repeat the question? Which -- what
7 particular link are you looking for?

8 Q Well, in answer to the last question I asked
9 you, I think you said in some general sense I'm sure
10 the intercept survey influenced the main study, and
11 I'm trying to understand what you meant by that.

09:10AM

12 MS. XIDIS: Objection to form.

13 A I mean, we were aware that we had done these
14 prior studies and -- you know, in some general way.
15 We went through a detailed development process
16 that's described in our report, and that's what
17 affected the final form of the CV study.

09:11AM

18 Q If you look at this Table 2 on Page 9 of
19 Deposition Exhibit 3, the intercept study, tell me,
20 if you can, what the two most common likes were
21 about recreating at Tenkiller Lake based on this
22 intercept survey.

09:11AM

23 A Natural beauty and aesthetics, good water
24 quality.

25 Q So -- and how many of the respondents listed

09:11AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 natural beauty aesthetics?

2 **A** 123.

3 **Q** And how many listed good water quality?

4 **A** 92.

5 **Q** Out of how many?

09:12AM

6 **A** There were, I believe, 395 respondents. I
7 don't really remember.

8 **Q** Okay. Was water quality mentioned as
9 something that visitors disliked about the area?

10 **A** 43 said that there were trash, oils and
11 debris. Eight said poor water quality. One more
12 said odor, and then similar numbers for Illinois
13 River.

09:12AM

14 **Q** And for the heading trash, oil, debris, do you
15 know -- do you recall how those respondents broke it
16 down, whether they were concerned about trash or oil
17 or debris or all three?

09:12AM

18 **A** I don't -- I don't know.

19 **Q** Okay. Based on this intercept study, how
20 would you describe the overall impression visitors
21 have of the Illinois River and Tenkiller Lake?

09:13AM

22 MS. XIDIS: Objection to form.

23 **A** Yeah, could you be more specific? What
24 conclusion -- I don't have an opinion about what
25 their view was based on Table 2.

09:13AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 Q Okay. Can you form an opinion based on Table
2 2?

3 MS. XIDIS: Objection to form.

4 A Some people seem to have a positive
5 impression. Some people seem to have a negative 09:13AM
6 impression.

7 Q Fair to say more people had a positive
8 impression than a negative impression?

9 A Can't tell because these are responses, not
10 people. You know, there are multiple responses from 09:13AM
11 the same individual in this table. You really can't
12 tell what the individual said based on this table.

13 Q They were asked the question are there one or
14 two things that you particularly like or dislike
15 about recreation; correct? 09:14AM

16 A Let's see what they were asked.

17 Q It's Question 10 I believe.

18 A Yeah. So people could have given as many as
19 two comments, and these data aren't duplicated. So
20 it's really tough to say what any individual said or 09:14AM
21 what their overall impress was, and we didn't ask
22 them about their overall impression. So I don't
23 care to characterize from this table what people's
24 overall impressions were.

25 Q Okay. I think you said earlier that your goal 09:14AM

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ROGER TOURANGEAU, PhD, 4-8-09**32**

1 in doing this intercept survey was --

2 **A** I don't remember the goal of this intercept
3 survey.

4 **Q** Well, we read the goal at the beginning of the
5 study; right? 09:14AM

6 **A** Well, it says to obtain current estimates of
7 recreational use and an understanding of uses and
8 attitudes towards the river and lake.

9 **Q** Is there any literature on using or combining
10 the results of surveys based on actual behavior with 09:15AM
11 those based on stated preferences?

12 **A** I don't know.

13 **Q** You don't, okay. Did you peer review this
14 intercept survey?

15 **A** I don't remember. 09:15AM

16 **Q** And I think you said earlier you just didn't
17 consider this intercept survey in designing the
18 contingent valuation study; correct?

19 **A** I'm having trouble with that question. I
20 mean, we hadn't forgotten we had done this study, 09:16AM

21 and, you know, I mean, in some general way, I mean,
22 we were aware that these questions were out there,
23 but we went through a detailed, more than year-long
24 development process, and I don't think this survey
25 played a major role in the contingent valuation 09:16AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 survey.

2 Q Did it play any role in the contingent
3 valuation survey?

4 A I think I've been clear. We were aware we did
5 it. We took into account we had done it but, you 09:16AM
6 know, we weren't looking at -- we didn't have this
7 questionnaire in front of us when we were writing
8 the other questionnaire, no.

9 Q I guess that's my -- that's why I'm trying to
10 get at. Why didn't you have this questionnaire in 09:16AM
11 front of you when you were writing the other
12 questionnaire?

13 A The two surveys had very different purposes.

14 Q Okay. What was the purpose of the main study?

15 A To assess people's willingness to pay for a 09:17AM
16 program to restore the river and lake to what they
17 had been like at baseline.

18 Q How did you determine what baseline was in
19 connection with the contingent valuation survey?

20 A I personally didn't do that. I think Dr. 09:17AM
21 Bishop took the lead on that particular part of the
22 project, working with the natural scientists.

23 Q In the contingent valuation survey, did you
24 ask questions about recreational use?

25 A I'd like to review the questionnaire to the CV 09:17AM

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ROGER TOURANGEAU, PhD, 4-8-09**34**

1 survey, but, I mean, I think we asked people if they
2 went to rivers and lakes to recreate and also
3 whether they had been to this particular river and
4 lake, but could I look at the questionnaire?

5 Q I will show it to you in a little bit. I was 09:17AM
6 trying to test your memory right now.

7 Now, we talked a little earlier about the
8 telephone survey, and you indicated to me that you
9 were seeking different information in the telephone
10 survey than you were in this intercept survey; 09:18AM
11 correct?

12 A That's right.

13 Q And why don't we mark the telephone survey.
14 What were your goals in conducting this telephone
15 survey, and I direct you to the introduction, 09:18AM
16 Section 1.1, which lists the goals.

17 A We wanted to get a sense of how much people
18 knew about and used the river and lake and more
19 generally the water in the rivers and lakes in
20 Oklahoma. If they -- wanted to see if they knew 09:19AM
21 anything about any water quality problems, and we
22 wanted to see what they remembered, if anything,
23 from media stories about the poultry industry and
24 the situation in Tenkiller Lake and the Illinois
25 River. 09:19AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 Q You were involved in developing this telephone
2 survey; right?

3 A That's right.

4 Q And I think you said the first set of
5 questions were designed to gauge awareness of 09:19AM
6 Tenkiller Lake and the Illinois River; right?

7 A Could I look at the questionnaire before I
8 answer?

9 Q I do not have a copy of the questionnaire, so
10 I cannot give that to you, but if you'll look at 09:20AM
11 Page 3 of this report, you'll see the section
12 entitled Knowledge and Use of Oklahoma Water Bodies.

13 A Okay.

14 Q It says Questions 5 through 15 were designed
15 to gain a better understanding of Oklahomans' 09:20AM
16 knowledge about and use of the Illinois River and
17 Tenkiller Lake.

18 A I see that.

19 Q Do you know what -- whether or not the
20 respondents were aware of these areas? 09:20AM

21 A I don't remember the results.

22 Q Why don't you take a look at Page 7?

23 A I'm there.

24 Q What does the Table 1 on Page 7 tell you about
25 respondents' awareness of these areas? 09:21AM

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1 **A** Well, the table isn't really about their
2 awareness. It's about whether they knew specific
3 things and whether they had ever been there.

4 **Q** Okay, and what percent of these respondents
5 had visited Tenkiller Lake?

09:21AM

6 **A** 32 percent.

7 **Q** And what percent had visited the Illinois
8 River?

9 **A** 25 percent. It's not clear from the table
10 whether those are conditional percentages or
11 unconditional percentages. That is to say, the
12 first question asked had they been to any river or
13 lake, and I think these percentages are based on the
14 people who had been to any river or lake, so it's
15 actually a smaller percentage overall.

09:21AM

16 **Q** Okay. So the percentage that had actually
17 been to Tenkiller Lake would be smaller than is
18 reflected in Table 1?

19 **A** I'm not sure.

20 **Q** You're not sure?

09:22AM

21 **A** I'm not sure how it was done --

22 **Q** Okay.

23 **A** -- at this day.

24 **Q** At the time you knew how it was done?

25 **A** Yes. I'm sure at one point I understood what

09:22AM

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1 was in this table.

2 Q You just haven't reviewed it since --

3 A Yeah.

4 Q -- since the fall of 2006, or when was the
5 last time you reviewed this document?

09:22AM

6 A Well, a few -- within the past week I've
7 looked at it, but I didn't review the data to
8 resolve this ambiguity.

9 Q Okay. Why did you look at it in the past
10 week?

09:22AM

11 A Just to get ready for, you know, today.

12 Q Prior to that, when was the last time you
13 looked at this data?

14 A I can't remember.

15 Q Did you look at it at any time in preparation
16 for preparing the contingent valuation survey?

09:23AM

17 A The question isn't clear to me. When you say
18 look at the data, I don't know that I ever had a
19 dataset from this particular data collection. So in
20 some sense I never looked at the data.

09:23AM

21 Q Okay. So don't know whether or not you were
22 ever given a dataset in connection with this study?

23 A I'm fairly certainly I wasn't given a dataset
24 in connection with this study.

25 Q Did you ever ask for a dataset in connection

09:23AM

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1 with this study?

2 **A** No.

3 **Q** How come?

4 **A** There were other people who were sort of

5 charged with carrying out data analysis, and 09:23AM

6 actually I'm fairly sure I did have the dataset. I

7 didn't analyze it, though.

8 **Q** Okay. So you were given a copy of the

9 dataset?

10 **A** Yeah. I'm fairly certain I have the dataset. 09:23AM

11 **Q** But you just didn't analyze it?

12 **A** There were other people who were supposed to

13 do the analysis.

14 **Q** Okay. Did other people do that analysis?

15 **A** Yes. 09:24AM

16 **Q** They clearly did because it's written in the

17 report; right?

18 **A** That's right.

19 **Q** Take a look at Page 8 of the telephone survey,

20 please. 09:24AM

21 **A** I'm there.

22 **Q** The next set of questions in the telephone

23 survey was used to, quote, determine whether

24 respondents knew of any water quality problems in

25 Oklahoma and what they perceived to be the causes of 09:24AM

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1 those issues.

2 **A** I don't see where you're reading, but I'll
3 take your word for it.

4 **Q** Well, if you just look at Section 1.4.2, which
5 is characterized awareness of water quality 09:24AM
6 problems; do you see that?

7 **A** Yes.

8 **Q** And these questions were asked of the
9 respondents unprompted; is that your understanding?

10 **A** These were open-ended questions. 09:25AM

11 **Q** What does -- I just used the term prompted
12 loosely, but what does prompting refer to in survey
13 research?

14 **A** Usually it refers to interviewer follow-up
15 questions designed to clarify what the respondent 09:25AM
16 has said.

17 **Q** What are the advantages of questions that do
18 not use prompting?

19 **A** I've just said that prompting isn't what you
20 think it is. 09:25AM

21 **Q** I understand. Now I'm asking you what are the
22 advantages if you don't prompt, if you simply ask an
23 open-ended question and then don't follow up?

24 MS. XIDIS: Objection to form.

25 **A** Yeah, you're not getting what I'm saying. 09:26AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 Q Maybe I'm not.

2 A We're not communicating. Sometimes -- what
3 prompting refers to is sometimes a respondent gives
4 the answer and it's not the kind of answer the
5 interviewer was looking for. It's not one of the 09:26AM
6 precoded responses, and so the interviewer has to do
7 something to get the respondent to select one of the
8 preestablished response categories. That's
9 prompting.

10 Q Okay. 09:26AM

11 A It has nothing to do with open versus closed.

12 Q Okay. Well, then I probably am using the
13 wrong terminology. In legal speak we refer to a
14 leading question or an open question. How would you
15 refer to that, for example, a question that reflects 09:26AM
16 the answer, do you think Tenkiller Lake is polluted?

17 MS. XIDIS: Objection to form.

18 Q What is that called in survey methodology?

19 A The big distinction that survey methodologists
20 draw between questions are open and closed 09:26AM
21 questions.

22 Q Okay.

23 A Open questions are questions where people have
24 to formulate the answer in their own words. Closed
25 questions are questions in which they're given 09:27AM

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ROGER TOURANGEAU, PhD, 4-8-09**41**

1 preestablished response categories.

2 **Q** Is there an advantage to using open questions
3 versus closed questions or an advantage to using
4 closed questions versus open questions; why would
5 you use one or the other?

09:27AM

6 MS. XIDIS: Objection to form.

7 **A** There are various reasons why in various
8 contexts you might prefer open to closed questions.
9 One drawback to a closed question that asks for a
10 frequency is that people might infer something from
11 the response categories about the population
12 frequency. So that could influence their answers.

09:27AM

13 So if I asked you how much TV you're watching in a
14 typical night, your answer might be affected by
15 which response categories I give you, whether they
16 emphasize the high end or low end of the range. So
17 that would be an example of a situation in which it
18 might be advantageous to ask an open question. Here
19 we wanted to see -- well, we wanted to see what
20 people said spontaneously.

09:27AM

09:28AM

21 **Q** And why did you want to see that?

22 **A** In developing a survey, you want to ask
23 questions that correspond to people's understanding
24 of a situation to the extent possible. So you want
25 to get a sense of how they think and talk about a

09:28AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 topic themselves.

2 Q And so that's what you were trying to do in
3 this telephone survey, to get a sense of how they
4 thought about the Tenkiller Lake and Illinois River
5 themselves? 09:28AM

6 A That's right.

7 Q And what did you hope that that information
8 would provide to you?

9 A Just a --

10 MS. XIDIS: Objection to form. 09:28AM

11 A Just a better understanding of, you know, how
12 people thought about this river and lake.

13 Q Based on this telephone survey as reflected in
14 Table 3, what did you determine the respondents'
15 impressions were of the Illinois River and Tenkiller
16 Lake? 09:29AM

17 A I'm sorry, would you repeat the question?

18 Q What did you determine were the respondents'
19 impressions of the Illinois River and Tenkiller
20 Lake? 09:29AM

21 A Some people spontaneously commented its
22 beauty. Others mentioned specific issues, you know,
23 that were unattractive features of it.

24 Q How many of the respondents in this un -- it's
25 not unprompted -- what's the term again -- open 09:30AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 questions about Tenkiller Lake mentioned chicken
2 waste in the water?

3 **A** 6 percent.

4 **Q** I think that's 6 percent mentioned it in the
5 water of the Illinois River.

09:30AM

6 **A** I'm sorry. I didn't hear.

7 **Q** What percent mentioned it in the water --

8 **A** Zero. Nobody mentioned it regarding Tenkiller
9 Lake.

10 **Q** So nobody mentioned chicken waste in the water
11 in connection with Tenkiller Lake?

09:30AM

12 **A** Bearing in mind that this is only part of what
13 we asked in that survey. I mean, they were also
14 asked other questions. This is only one of them.

15 **Q** I understand, but they were asked their
16 impressions of the Illinois River and Tenkiller
17 Lake; correct?

09:30AM

18 **A** Right.

19 **Q** Now, you indicated one of the things you were
20 trying to determine was whether respondents

09:30AM

21 remembered things from media stories; is that
22 correct?

23 **A** That's right.

24 **Q** And when you say media stories, you're
25 referring to what?

09:30AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09

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1 Q Did you have a copy of the telephone survey in
2 your considered by materials?

3 A If I had a copy of it, it's in my considered
4 by materials.

5 Q Okay. I don't recall see it in the materials 09:32AM
6 that were provided to me. That's why I'm asking.

7 A I don't recall whether I had it or not.

8 Q But you did look at this exhibit before
9 yesterday; correct?

10 A I believe so, yes. Well, certainly before 09:32AM
11 yesterday. Whether I looked at it in March of 2007,
12 I don't remember.

13 Q Did you review the response rate for this
14 survey?

15 A I'm not sure what you mean. 09:33AM

16 Q What was the response rate?

17 A I don't know.

18 Q Don't know. We talked a little bit earlier
19 about open-ended questions and close-ended
20 questions, and I also asked you about the term 09:33AM
21 prompting. Can you define for me what prompting
22 means in survey research?

23 A I did.

24 Q Yeah. Tell me again. I want to ask some
25 follow-up questions. 09:33AM

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EXHIBIT N

ROGER TOURANGEAU, PhD, 4-8-09**46**

1 MS. XIDIS: Objection, asked and answered.

2 **A** Yeah. It's when interviewers construct probes
3 to try and clarify which answer the respondent
4 intended to select.

5 **Q** What are the advantages of constructing those 09:34AM
6 probes?

7 **A** It's -- I'm not sure what you mean.

8 **Q** Well, what are the advantages --

9 **A** Why do people do it.

10 **Q** Yeah. Why do people do prompting? 09:34AM

11 **A** Because they want the respondent to answer the
12 question.

13 **Q** If the respondent doesn't answer a question
14 until he or she is prompted, what does that mean
15 cognitively? 09:34AM

16 MS. XIDIS: Objection to form.

17 **A** It suggests there might have been a difficulty
18 with understanding the question or format of the
19 answer or it could be that the respondent just
20 didn't hear the response categories or forgot them 09:35AM
21 in selecting their answer.

22 **Q** Could it mean that the answer isn't as
23 important to the respondent?

24 MS. XIDIS: Objection to form.

25 **A** I've never heard of anybody making that 09:35AM

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ROGER TOURANGEAU, PhD, 4-8-09**47**

1 argument. So, no, I don't know.

2 **Q** When you ask an open-ended question like what
3 do you like about Tenkiller Lake, do the responses
4 that you get from a question like that -- are the
5 responses you get from a question like that more 09:35AM
6 indicative of the respondents' actual beliefs than
7 the responses you get from a survey question where
8 you list three or four things that the respondent
9 might like about Tenkiller Lake and ask them to pick
10 one of them? 09:36AM

11 MS. XIDIS: Objection to form.

12 **A** Yeah. It really depends. A lot of times
13 people don't give answers that they would give if
14 they understood better what the question meant. One
15 of the drawbacks of an open-ended question is often 09:36AM
16 respondents misinterpret the intent of the question,
17 and as a result, they don't give answers that they
18 would have given if they had understood better. One
19 of the advantages of having a close-ended question
20 is it's clear what the intent of the question is 09:36AM
21 because you've given the respondents the set of
22 possible answers. So sometimes people forget stuff
23 or they inadvertently leave stuff out because they
24 make assumptions about the intent of the question.
25 So there are drawbacks to an open-ended question. 09:36AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 Q Okay. Let's talk about the question I pose.
2 What do you like about Tenkiller Lake? Give me an
3 example of what a drawback would be to asking the
4 question that way.

5 A It could be that for whatever reason these 09:37AM
6 are -- you know, they think of, say, only recreation
7 but they don't think of, you know, other things like
8 the fact that there is algae in the water or, you
9 know -- or they inadvertently assume that you're
10 asking about recreation, you know. So you -- you 09:37AM
11 know, you really can't tell if there's -- you know,
12 that's necessarily a more valid response than an
13 answer to a close-ended question.

14 Q If you suggest the answer to the question,
15 what do you like about Tenkiller Lake, is there a 09:37AM
16 danger that you will suggest to the -- that you will
17 educate the respondent about something the
18 respondent has never thought about?

19 MS. XIDIS: Objection to form.

20 A Yeah. I don't understand what you're asking. 09:38AM

21 Q Well, you indicated to me -- you know, we were
22 talking about what the question, what do you like
23 about Tenkiller Lake, and in response to that
24 discussion, you mentioned algae in the water, which
25 wouldn't be a like I wouldn't think, but let's say 09:38AM

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1 that the question was what do you like or dislike
2 about Tenkiller Lake, and you have a list of
3 potential answers and you tick them off to the
4 respondent, and in those answers you say algae in
5 the water, and this particular respondent has never 09:38AM
6 been to Tenkiller Lake and doesn't know there's
7 algae in the water.

8 **A** I don't think we asked people --

9 MS. XIDIS: Objection to form.

10 **Q** This is a hypothetical question. Let me just 09:38AM
11 finish my question.

12 **A** All right.

13 **Q** My question is, by including that answer, that
14 potential answer and giving it to the respondent, do
15 you potentially change the respondent's opinion of 09:39AM
16 Tenkiller Lake?

17 MS. XIDIS: Objection to form.

18 **A** I think that's very unlikely.

19 **Q** Why?

20 **A** If they don't know anything about it -- well, 09:39AM
21 repeat the assumptions behind the hypothetical.

22 **Q** You asked the question of a respondent, what
23 do you like or dislike about Tenkiller Lake.

24 **A** And they've just told you that they don't know
25 anything about it. 09:39AM

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1 **Q** Would you expect people who thought that a
2 site was congested or had bad water quality would
3 tell an interviewer that the site was congested or
4 had bad water quality in response to a survey
5 interview about what they disliked or liked about 09:41AM
6 the site?

7 MS. XIDIS: Objection to form.

8 **A** This is a good example. They may or may not
9 mention it. It may not occur to them that that's
10 relevant to an open-ended question. 09:41AM

11 **Q** Okay. Explain to me why not.

12 **A** It just may not occur to them. You know,
13 there's different levels of difficulty in different
14 memory tasks. So if I ask you what her name is,
15 it's a more difficult task to come up with her name 09:41AM
16 spontaneously without any assistance from the
17 question than if I asked you is her name Ingrid
18 Moll. You know, people may forget on that
19 particular occasion that particular fact, or they
20 may think that traffic congestion at the site is not 09:41AM
21 what the question is about, and so they may think of
22 it but decide not to report it. These are some of
23 the drawbacks of open-ended questions. They impose
24 added memory demands on the respondent, who may
25 overlook to report important stuff that they would 09:42AM

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1 report had you mentioned it, had you brought it up,
2 just like you might be able to remember Ingrid
3 Moll's name if I said is her name Ingrid Moll.

4 Q So let me back up. In this intercept survey,
5 you were interviewing people who had just come off 09:42AM
6 the lake or had just come off the river; correct?

7 A That's right.

8 Q So if someone had just come off the river and
9 it was congested that day, they might not recall
10 that in response to a question at the picnic area 09:42AM
11 about what they liked or disliked about Tenkiller
12 Lake or the river that day?

13 MS. XIDIS: Objection to form.

14 A It may not be particularly salient to them on
15 that particular occasion. If they just came out of 09:42AM
16 the river, it was probably salient to them that they
17 had a good time on the river, if they indeed had a
18 good time on the river, but they may not think
19 about, say, traffic congestion or some other thing
20 that happened several hours before, and that's why 09:43AM
21 most surveys don't use a lot of open-ended
22 questions.

23 Q So if they'd just come off the river, they'd
24 been floating down the river that day and were asked
25 a question about what they liked or disliked and 09:43AM

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1 there was a lot of algae in the water that day, that
2 just might not come to their mind when they were
3 asked the question the minute they get out of the
4 water by one of your surveyors?

5 MS. XIDIS: Objection to form. 09:43AM

6 **A** It might or might not.

7 **Q** Okay. Mr. Chapman, I've handed you -- or Dr.
8 Tourangeau, I've handed you what's been marked as
9 Deposition Exhibit No. 5, which is an E-mail from
10 David Chapman to yourself dated December 3rd, 2006. 09:44AM
11 At least the top E-mail is dated that. Do you have
12 that in front of you?

13 **A** Yes, I do.

14 **Q** And this series of E-mails talks about getting
15 together to address potential ethics issues that 09:44AM
16 might arise; do you see that?

17 **A** Yes, I do.

18 **Q** What were the potential ethics issues that you
19 were getting together to talk about?

20 **A** I really don't remember. 09:44AM

21 **Q** Do you know who the legal ethicists are that
22 are referenced in the first paragraph of this
23 E-mail?

24 **A** There was a particular person at Motley Rice
25 but I don't remember his or her name. 09:45AM

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1 Q And what was that particular person's
2 involvement in this?

3 **A** As I recall, there was a conference call to
4 discuss some issue with the survey and this person
5 took part and we all agreed that there wasn't a 09:45AM
6 problem.

7 Q Do you recall what the issue was?

8 **A** I really don't. I really can't say.

9 Q Is it important that in survey design the
10 facts that are presented to the respondent be 09:45AM
11 accurate?

12 **A** That's really a vague question.

13 Q If you're representing to a respondent factual
14 information, does that information have to be
15 accurate? 09:46AM

16 **A** Could you make that more concrete still? I
17 mean, people ask hypothetical questions all the
18 time. You did. That's -- you know, the information
19 in the hypothetical is contrary to fact.

20 Q Okay. Let's talk specifically about the CV 09:46AM
21 survey. If you told the respondents of the CV
22 survey that fish populations had decreased in
23 Tenkiller Lake and they in fact hadn't decreased in
24 Tenkiller Lake, does that matter for purposes of the
25 survey design? 09:46AM

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1 MS. XIDIS: Objection to form.

2 **A** We -- in describing the problem in the river
3 and lake, we tried to give -- we gave accurate
4 scientific information as best we understood it, and
5 Rich worked with the natural scientists to ensure
6 that the claims we made were consistent with what
7 they had found.

09:47AM

8 **Q** If the claims that were made were inaccurate
9 scientifically, would that affect the survey design
10 and the responses you got from the survey?

09:47AM

11 MS. XIDIS: Objection to form.

12 **A** I'm not sure how anything could affect the
13 responses we got to the survey. They're in the can;
14 it's over. So I'm not sure what you're saying. The
15 survey is done.

09:47AM

16 **Q** Okay.

17 **A** Nothing can affect the responses we get
18 anymore.

19 **Q** I understand that. I'm asking you about --

20 **A** Go ahead.

09:48AM

21 **Q** I'm sorry. I've lost my train of thought.
22 I'm not asking you about the answers that you got to
23 this survey. I'm now asking you as an expert in
24 survey methodology if it matters for purposes of
25 accuracy of the results that you receive that the

09:48AM

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1 information you provide to the respondents is
2 accurate.

3 MS. XIDIS: Objection to form.

4 **A** Again, in many cases information that is
5 presented in a survey is deemed hypothetical, and so 09:48AM
6 I guess as a matter of principle, no, I guess it
7 doesn't matter that the information is accurate.

8 **Q** Is there any ethical obligations that a survey
9 designer has to assure that the survey designer is
10 not misrepresenting something to the survey 09:49AM
11 respondents?

12 **A** Could you be more specific?

13 **Q** Well, you know, let me give you a precise
14 example from this case. In this case, in the survey
15 design the State of Oklahoma represented to its 09:49AM
16 citizens that it was going to use an alum program to
17 treat the problem of poultry litter contamination in
18 the Illinois River and Tenkiller Lake, when in fact
19 the State of Oklahoma had no plans to use an alum
20 program to treat those pollutants at the time that 09:49AM
21 they conducted the survey. Does the survey designer
22 have any ethical obligation to make sure that the
23 information that the survey designer is providing to
24 the respondents accurately reflects that fact?

25 MS. XIDIS: Objection to form. 09:50AM

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1 **A** What was critical to us was to present a
2 solution to people that was plausible, that they
3 could understand and that they accepted, and we
4 presented a solution involving alum and other steps
5 the State would take, might take to restore the
6 river and lake to 1960 conditions, and in order to
7 obtain the information we needed, we presented the
8 scenario.

09:50AM

9 **Q** So all that matters is that it has to be
10 plausible?

09:51AM

11 MS. XIDIS: Objection to form.

12 **A** Well, the various things I said. It has to be
13 plausible, understood and they have to accept it.

14 **Q** And that's it in terms of survey design as far
15 as your ethical obligation?

09:51AM

16 MS. XIDIS: Objection to form.

17 **A** We gave them information so they could make a
18 decision and we recorded their answers honestly.

19 **Q** When you were conducting the CV survey, did
20 you inform the respondents that some of the
21 information you were giving them was hypothetical or
22 did you present it as truth?

09:52AM

23 MS. XIDIS: Objection to form.

24 **A** Could I see the CV survey before I comment?

25 **Q** Sure.

09:52AM

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1 MS. XIDIS: Do you want the one that was
2 marked for Chapman?

3 MR. DEIHL: I can mark another one.

4 **A** I think Volume II has the actual
5 questionnaire. Volume I has a summary of it. Is 09:53AM
6 there some specific passage in the questionnaire you
7 want me to comment on?

8 **Q** Well, I had been asking you a hypothetical
9 question and you asked to see the questionnaire.

10 **A** Well, what was your hypothetical question 09:54AM
11 again? I'm sorry.

12 MR. DEIHL: Could we have the last question
13 read back, please?

14 (Whereupon, the court reporter read
15 back the previous question.) 09:55AM

16 **A** One more time.

17 (Whereupon, the court reporter read
18 back the previous question.)

19 **A** We didn't explicitly say some of the
20 information was hypothetical, no. 09:55AM

21 **Q** Why not?

22 **A** We wanted people to believe that their
23 decisions were consequential and that what they said
24 would matter.

25 **Q** If you would turn to Page A-11 of the -- of 09:55AM

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1 Volume II, just the questionnaire, and this is just
2 an example. In the questionnaire you state, in many
3 parts of the lake where the oxygen and temperature
4 were ideal for smallmouth bass and other types of
5 fish people catch, there is now so little oxygen
6 during the summer that these areas are no longer
7 ideal for these fish. Where did you get the
8 information for a statement -- for that statement?

09:56AM

9 **A** I wasn't involved in working with the natural
10 scientists who vetted these assertions. You'd have
11 to talk to Rich Bishop about where these individual
12 statements came from.

09:56AM

13 **Q** Okay. So Rich Bishop was responsible for
14 interacting with the natural scientists to assure
15 the accuracy of the survey?

09:57AM

16 **A** Right.

17 **Q** Was it important to you that these sorts of
18 factual informations in the survey be accurate?

19 **A** It was important that the description of the
20 problem be clear and accurate.

09:57AM

21 **Q** Did it need to be factually accurate?

22 **A** As opposed to accurate?

23 **Q** As opposed to inaccurate. I mean, I'm making
24 this up, but let's say that it's not true, that
25 smallmouth bass and other types of fish grow slower.

09:57AM

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1 Would that have mattered to you?

2 MS. XIDIS: Objection to form.

3 A I thought this information was accurate.

4 Q Okay, and did that matter to you in terms of
5 the way the survey was put together? 09:57AM

6 MS. XIDIS: Objection to form.

7 A It mattered.

8 Q And why did it matter?

9 A We wanted this to be accurate and clear.

10 Q And why is it important that it be accurate 09:57AM
11 and clear?

12 A This was describing the current situation in
13 the river and lake, and we wanted the people to have
14 a clear understanding of what the situation was.

15 Q Did the respondents know that it was the State 09:58AM
16 of Oklahoma that was conducting this study?

17 A Yes, they did or at least we told them it was.

18 Q Did that make any difference in terms of
19 whether or not the respondents thought that the
20 information was hypothetical? 09:58AM

21 MS. XIDIS: Objection to form.

22 A I have no idea.

23 Q Does it matter to a respondent that it's the
24 State conducting a survey as opposed to Proctor &
25 Gamble or somebody else? 09:58AM

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1 screen, and somebody would be the typist for the
2 group, but it was a collective enterprise.

3 Q So everybody was giving ideas during these
4 telephone sessions?

5 A That's right. 10:00AM

6 Q Who participated in these telephonic drafting
7 sessions?

8 A The authors of the report, except for Barbara
9 Kanninen, who came in later.

10 Q Dr. Tourangeau, I've handed you what's been 10:00AM
11 marked for purposes of identification as Deposition
12 Exhibit No. 8, which is an E-mail dated January
13 30th, 2008, from you to a bunch of recipients;
14 correct?

15 A That's right. 10:01AM

16 Q And this is a proposed modification to one of
17 the survey questions; is that right?

18 A One of the introductions to the survey
19 questions.

20 Q The proposal that you suggested is in caps at 10:01AM
21 the end of this E-mail; is that right?

22 A Yes.

23 Q And do you know why you were making this
24 suggestion?

25 A No. 10:02AM

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1 Q This didn't get carried through into the
2 survey questions; right?

3 A Let's look. I don't think so.

4 Q If you look on Page A-69 --

5 A Okay. It doesn't say -- my suggestion doesn't 10:02AM
6 seem to be adopted, no.

7 Q It didn't carry the day in one of these
8 telephonic drafting sessions?

9 A That's correct.

10 Q In your suggestion you state, your vote should 10:02AM
11 reflect your views about the likely benefits of the
12 alum treatments and not just your views about the
13 seriousness of the condition of the lake. Why were
14 you making that suggestion; what were you trying to
15 accomplish? 10:03AM

16 A I really can't remember.

17 Q Why did it matter that the respondents not
18 vote just based on their views of the seriousness of
19 the conditions of the river and lake?

20 MS. XIDIS: Objection to form. 10:03AM

21 A I can't reconstruct my state of mind from more
22 than a year ago, you know, about a suggestion that
23 was never adopted.

24 Q Okay. Let me ask it a different way. Did --
25 does it matter for purposes of survey methodology 10:03AM

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1 that the respondents didn't vote based on their
2 views of the seriousness of the river and the lake?

3 MS. XIDIS: Objection to form.

4 **A** I think one of the reasons why this suggestion
5 wasn't adopted was that some of the investigators
6 thought we shouldn't tell people how to formulate
7 their answers, and this whole line of -- and there
8 were several other iterations along these lines.

10:04AM

9 Basically said take into account X, don't take into

10 account Y, and we just decided that wasn't our

10:04AM

11 business to tell people how to construct their
12 answers, and we didn't want to go down that path,

13 and so that's I think why this and various other

14 previous iterations of the cheap talk paragraph

15 dropped this kind of language. We thought it best

10:04AM

16 to let respondents decide how to formulate their

17 answers without giving them a lot of guidance.

18 MR. DEIHL: Why don't we take a break for a
19 tape change.

20 VIDEOGRAPHER: We are off the Record at

10:04AM

21 10:04 a.m.

22 (Following a short recess at 10:04

23 a.m., proceedings continued on the Record at 10:14

24 a.m.)

25 VIDEOGRAPHER: Back on the Record at 10:14

10:15AM

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1 a.m.

2 (Whereupon, the court reporter read
3 back the previous question and answer.)

4 **Q** Dr. Tourangeau, a little earlier we were
5 talking about the importance of making sure that the 10:16AM
6 factual information provided in the survey
7 questionnaire was accurate. If you take a look at
8 Page A-13 of the survey questionnaire, please, about
9 three-quarters of the way down the page is a
10 statement that reads, scientists have measured how 10:16AM
11 much phosphorus comes into the river and lake from
12 different sources. They have found that about 60
13 percent of the phosphorus in the river and lake is
14 from chickens and turkeys. The other 40 percent
15 comes from sewage treatment plants, fertilizers 10:17AM
16 bought in stores and other sources. Do you see that
17 statement?

18 **A** Yes, I do.

19 **Q** If the amount of phosphorus from the chickens
20 and turkeys was actually 20 percent as opposed to 60 10:17AM
21 percent, would that matter in terms of survey
22 design?

23 MS. XIDIS: Objection to form.

24 **A** Yeah. This whole does that matter, how much
25 and in what way? 10:17AM

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1 Q That's what I'm asking you.

2 A No. You define your question. You know, in
3 some sense everything matters.

4 Q Okay. Well, my question is, the purpose of
5 this survey was to determine people's willingness to 10:17AM
6 pay for this alum program; correct?

7 A That's right.

8 Q And this survey told people that the alum
9 program would treat the pollutants arising from the
10 turkey and chicken industry; correct? 10:18AM

11 A That's right.

12 Q And this survey told them that 60 percent of
13 the phosphorus in the water came from the poultry
14 industry; correct?

15 A That's what it told them, yes. 10:18AM

16 Q And if in fact only 20 percent of the
17 phosphorus came from the poultry industry, wouldn't
18 that affect the respondents' willingness to pay for
19 the alum program?

20 MS. XIDIS: Objection to form. 10:18AM

21 A I don't know.

22 Q Wouldn't it change what the respondents
23 thought they were buying if they were only buying a
24 cleanup of 20 percent of the phosphorus in the
25 Illinois River and Tenkiller Lake as opposed to a 60 10:18AM

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1 percent cleanup of the Illinois River and Tenkiller
2 Lake?

3 MS. XIDIS: Objection to form.

4 **A** We never told them that we were only going to
5 clean up 60 percent of the phosphorus. So I'm not 10:19AM
6 sure this would have had any impact on their
7 answers.

8 **Q** So you don't think it was -- do you think it
9 was important that this representation about the
10 amount of phosphorus that came from the poultry 10:19AM
11 industry be accurate?

12 MS. XIDIS: Objection to form.

13 **A** We believed it was accurate.

14 **Q** Does it matter that it is accurate?

15 MS. XIDIS: Objection to form. 10:19AM

16 **A** To whom and in what way and how much?

17 **Q** To the respondents.

18 **A** I don't know that it mattered to the
19 respondents, no.

20 **Q** So if the amount of phosphorus for the chicken 10:19AM
21 and poultry industry was 20 percent, you don't think
22 it would have mattered to the respondents in
23 responding to the survey?

24 MS. XIDIS: Objection to form.

25 **A** I don't know whether it would have mattered to 10:19AM

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1 them or not.

2 **Q** What if it was zero percent?

3 **A** I don't know whether it would have mattered to
4 them or not.

5 **Q** How would you determine that? 10:19AM

6 **A** I'd do a study where I told them it was zero
7 percent.

8 **Q** So you'd control for that piece?

9 **A** Yeah. I'd let the respondents tell us whether
10 it mattered. 10:20AM

11 **Q** Did you peer review the questionnaire?

12 **A** Not me personally, but we did.

13 **Q** And who is we?

14 **A** The research team.

15 **Q** Who are the peer reviewers? 10:20AM

16 **A** Kerry Smith and Norman Bradburn.

17 **Q** Do you know Kerry Smith and Norman Bradburn?

18 **A** I know Norman very well.

19 **Q** Tell me about Norman.

20 **A** I wasn't done. I've never met Kerry Smith. 10:20AM
21 I've talked to him on the phone.

22 **Q** Okay. You said you know Norman Bradburn very
23 well?

24 **A** Right.

25 **Q** How do you know Norman? 10:20AM

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1 **A** I worked for some years at the National
2 Opinion Research Center, and Norman was the director
3 there. We've done collaborative research together
4 and published several papers together.

5 **Q** What's Norman's reputation in the field? 10:21AM

6 **A** Norman is one of the world leading survey
7 methodologists.

8 **Q** How about Kerry Smith's reputation in the
9 field?

10 **A** I don't know Kerry real well, but I think he's 10:21AM
11 a well-respected resource economist.

12 **Q** And did Kerry Smith and Norman Bradburn
13 provide comments to the team?

14 **A** They did.

15 **Q** Dr. Tourangeau, I've handed you what's been 10:21AM
16 marked for purposes of identification as Exhibit No.
17 9, which is an E-mail cover page and then a copy of
18 peer-review comments on the Stratus survey; do you
19 see that?

20 **A** Yes, I do. 10:22AM

21 **Q** This is dated May 1st, 2008. The E-mail is
22 dated May 1st, 2008; correct?

23 **A** Yes, it is.

24 **Q** The E-mail indicates that the attorneys would
25 like to have a call to discuss these peer-review 10:22AM

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1 Q Sitting here today, you just can't recall
2 those conversations?

3 A No.

4 Q Let's take a look at these peer-review
5 comments and, again, you're -- you think these are 10:24AM
6 Kerry Smith's but you're not sure?

7 A What I'm not sure -- they're certainly not
8 Kerry Smith's, but they may in addition reflect
9 Norman's comments, too. I just don't know.

10 Q Okay. These comments are related to Pilot-1 10:24AM
11 chicken scenario 3-19-08?

12 A That's what it says.

13 Q And is that just one of the pilot
14 questionnaires; is that what your understanding
15 would be? 10:24AM

16 A Yes. I mean, we could look at the timeline in
17 the report and maybe nail it down a little bit
18 better but --

19 Q Why don't we do that. Let's see if we can
20 figure that out if you could take a look at the 10:24AM
21 report. I think if you look at Page 3-7 --

22 A Right. Yeah, I think it would be reasonable
23 to assume that Kerry gave us comments on the
24 questionnaire that we ultimately fielded in that
25 first pilot study in April. 10:25AM

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1 Q Well, this document is dated May 1st, 2008.

2 A Oh, you're right. So I'm not sure what
3 version of the questionnaire he was commenting on.

4 Q Okay. Let's look at his comments. He
5 indicates at the top of the page that there were key 10:26AM
6 and problematic themes. Do you see that?

7 A Yes.

8 Q The first one was inconsistency between very
9 specific and very vague statements of information
10 for elements of the scenario that are equally 10:26AM
11 important. Did you attempt to fix that issue in the
12 final questionnaire?

13 A We took Kerry's comments very seriously, and
14 we did lots of additional pretesting after we got
15 them and so, yes -- I mean, I don't specifically 10:27AM
16 know what specific steps we took to address that
17 particular comment, but we definitely took Kerry's
18 comments very seriously and tried to change the
19 questionnaire to accommodate him.

20 Q And, again, when you say Kerry's comments, 10:27AM
21 you're not sure whether these are Kerry's or Kerry's
22 and Mr. or Dr. Bradburn's comments; correct?

23 A That's right, these comments. We took these
24 comments quite seriously and tried to deal with
25 them. 10:27AM

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1 **Q** And comment No. B was, is everything factually
2 correct and supportable from historical conditions
3 to the injury, to the restoration plan, to the
4 recovery time. If cannot be supported, should not
5 remain in survey. Do you see that?

10:27AM

6 **A** Yes, I do.

7 **Q** Do you agree with that?

8 **A** We thought the information about the problem
9 and about the natural recovery time was accurate.

10 **Q** So you agree with that comment?

10:28AM

11 **A** To a point.

12 **Q** Okay. What do you quibble with?

13 **A** The important thing about the restoration plan
14 for us was not that it be actually feasible but that
15 respondents understand it and accept it and think
16 that it would work.

10:28AM

17 **Q** So with respect to the restoration plan, it
18 didn't matter that it be factually correct?

19 MS. XIDIS: Objection to form.

20 **A** What mattered to us were the other things.

10:28AM

21 **Q** Okay, but with respect to historical
22 conditions and the injury, it did matter that it be
23 factually correct?

24 MS. XIDIS: Object to form.

25 **Q** Is that fair?

10:28AM

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1 **A** This matter business, I mean, everything
2 matters, Colin. It's an interconnective world.

3 **Q** You are testifying here today as an expert in
4 survey methodology, and I'm trying to understand if
5 it's your opinion that --

10:29AM

6 **A** To what extent? I mean, how much does it
7 matter? I mean, you need to define your question a
8 little bit better.

9 **Q** You've already told me that you can't
10 determine how much it matters without controlling
11 for each and every variable; correct?

10:29AM

12 MS. XIDIS: Objection to form.

13 **A** Well, then I can't testify to whether it
14 mattered or not, can I?

15 **Q** And so, again, we're back to this
16 hypothetical, which is in your field is it important
17 that the description of historical conditions and
18 injury that are provided to survey respondents be
19 factually accurate?

10:29AM

20 **A** My field is survey methodology, and this has
21 nothing to do with survey methodology.

10:29AM

22 **Q** Okay, and again that was Dr. Bishop who was
23 responsible for making sure that these facts were
24 accurate?

25 **A** It was Dr. Bishop's responsibility to act as a

10:30AM

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1 liaison between the natural scientists and the
2 questionnaire design team, that's right.

3 Q So you don't have an opinion on whether or not
4 it affected the results of the survey, that the
5 factual information provided to the survey
6 respondents be accurate?

10:30AM

7 MS. XIDIS: Objection to form.

8 A Say that again.

9 Q I think you just said that you're an expert in
10 methodology, and you don't know whether or not it
11 matters to the outcome of this survey if the factual
12 information that was provided to the recipient, to
13 the respondents was accurate.

10:30AM

14 MS. XIDIS: Objection to form.

15 Q Is that correct; did I get that right?

10:30AM

16 A We presented them certain information, and the
17 accuracy of that information, if they accepted it,
18 is irrelevant. I mean, they gave their answers
19 based on what they heard from us and they answered.

20 Q Okay. Can --

10:31AM

21 A I don't know whether the information was
22 accurate, except through my assurances from Rich
23 that it was.

24 Q And, again, we're back to questions we talked
25 about before, but doesn't the accuracy of that

10:31AM

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1 information potentially impact the respondents'
2 votes for or against the program?

3 MS. XIDIS: Objection to form.

4 **A** We have empirical evidence that whether they
5 believe the information or not affected their votes. 10:31AM

6 **Q** Well, there are people who believe that the
7 Holocaust didn't happen. If I tell them, you know,
8 that the Holocaust didn't happen and they believe
9 it, that's okay in survey methodology?

10 MS. XIDIS: Objection to form. 10:31AM

11 **A** Yeah, I don't see the analogy to what we're
12 doing here.

13 **Q** Well, okay. Let's go back to the peer-review
14 comments here, and your peer reviewers are telling
15 you to make sure everything is factually correct and 10:32AM
16 my question --

17 **A** I think Kerry made this comment. We believed
18 the information we presented about the injury and
19 about the recovery time were accurate.

20 **Q** I understand you believed it. My question is, 10:32AM
21 does it matter to the vote that you're asking the
22 respondents to make that the factual information
23 provided to them be accurate?

24 MS. XIDIS: Objection to form.

25 **A** I just can't answer your question as asked. I 10:32AM

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1 don't understand what you're saying.

2 Q What don't you understand?

3 A First of all, what do you mean by does it
4 matter?

5 Q Does it affect their vote? 10:32AM

6 A And then the question is, that the information
7 is accurate. I -- what affects their vote I suppose
8 is what they believed about the information, and we
9 measured that, and that's what's, you know, in our
10 results. 10:33AM

11 Q So if they believed inaccurate factual
12 information, that's okay?

13 MS. XIDIS: Objection to form.

14 A I can't help what they believed. I mean, we
15 told them certain things. We believed it was 10:33AM
16 accurate. They drew their own conclusions.

17 Q Again, let's go back to your answer to the
18 previous question. You said that you -- I don't
19 remember your exact words but let me try to
20 paraphrase. You said -- 10:33AM

21 A Why don't we read my exact records?

22 Q It's a number of questions ago so let's try
23 again. I don't want to put the court reporter
24 through it. I asked you if you agreed with the
25 statement in B under key and problematic themes in 10:34AM

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1 this deposition exhibit, and you said I generally
2 do. Did I get that right?

3 A I don't remember.

4 Q Okay. Do you agree with this statement?

5 A We tried to -- we believed we were presenting 10:34AM
6 factually correct information about the injury and
7 the recovery time, yes.

8 Q And was it important that the information
9 actually be factually accurate?

10 MS. XIDIS: Objection to form. 10:34AM

11 A Important in what way?

12 Q To arriving at an accurate damages figure in
13 this lawsuit.

14 A That's an issue for the economists and the
15 attorneys, not for me. 10:35AM

16 Q So you don't have an opinion on that?

17 A I do not.

18 Q Do you know that this survey is being used in
19 this lawsuit to justify a damages number?

20 A Yes. 10:35AM

21 Q Is it important that that damages number be
22 accurate?

23 MS. XIDIS: Objection to form.

24 A Important to whom and for what purpose?

25 Q To the judge in this case. 10:36AM

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ROGER TOURANGEAU, PhD, 4-8-09**79**

1 MS. XIDIS: Objection to form. It calls
2 for speculation for things that you know are
3 completely outside his knowledge.

4 MR. DEIHL: No, I don't think it's outside
5 his knowledge. 10:36AM

6 MS. XIDIS: These are inappropriate
7 questions. You don't have to answer that question.

8 Q The point of this exercise, Dr. Tourangeau, is
9 to provide accurate information to a federal court
10 about the damages in this case, and I'm trying to 10:36AM
11 understand if in your opinion the damages in this
12 report are accurate.

13 A In my opinion the damages in the report are
14 accurate.

15 Q And that's why I keep asking you questions 10:36AM
16 about whether or not it matters that the information
17 you provided to the citizens of Oklahoma in this
18 survey was factually correct, whether it matters to
19 the damages number that the State of Oklahoma is
20 planning to present to this court. 10:36AM

21 A And what I'm telling you is what -- we
22 presented certain information to the respondents
23 using established procedures for contingent
24 valuation surveys. You know what information we
25 presented them. You have some indication of what 10:37AM

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1 they believed as a result of the information we
2 presented them, and that's what I'm competent to
3 talk about. If we presented them some other
4 information or if the information was accurate or
5 inaccurate, I can't comment on what would have
6 happened if they believed that it was accurate or
7 inaccurate. I can tell you what we did and what
8 respondents seem to conclude from it.

10:37AM

9 Q Okay, and in order to test whether the
10 respondents would have responded the same way to
11 different factual information, you would actually
12 have to do another survey and give them that factual
13 information; correct?

10:37AM

14 A If I wanted to know how they would respond to
15 some other set of information, I'd have to give them
16 another -- do another survey.

10:37AM

17 Q And that's what you would do to test that;
18 correct?

19 A That's what I would do to test that.

20 Q If you look at Comment D on these peer-review
21 comments, it says lack of information on substitutes
22 in recreation use. Do you see that?

10:38AM

23 A It actually say lake of information.

24 Q It does say lake. Do you think it means lack?

25 A Probably.

10:38AM

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1 Q Okay. Do you understand what the peer
2 reviewers are referring to in this comment?

3 A I do.

4 Q What do you think they're referring to?

5 A They felt that that particular version of the 10:38AM
6 questionnaire didn't present enough information
7 about other rivers and lakes and about recreation
8 use.

9 Q And why was that; why did that matter if at
10 all? 10:38AM

11 MS. XIDIS: Objection to form.

12 A I think in contingent valuation studies, it's
13 standard practice to remind people about potential
14 substitutes for the good in question, and I believe
15 we made changes to the questionnaire to deal with 10:39AM
16 that comment.

17 Q If you take a look at No. 6 under the general
18 comments, the peer reviewers wrote there are no data
19 collected on recreation use specifically. What if
20 poultry industry brings forward an argument that use 10:39AM
21 has not changed or increased; do you see that?

22 A I do.

23 Q Were you concerned by that peer-review
24 comment?

25 A I don't remember what I personally thought or 10:39AM

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1 how the team reacted, no.

2 Q You actually did have data on recreation use,
3 didn't you?

4 A Very limited data from our recreation survey.

5 Q If you look at General Comment No. 1, it says 10:40AM
6 have you considered oversampling in rural areas or
7 the study area; do you see that?

8 A Yes.

9 Q Did you have an understanding what the peer
10 reviewers meant by that comment? 10:40AM

11 A Yes, I understand that comment.

12 Q Okay. What's your understanding of it?

13 A Oversampling refers to using disproportionate
14 allocation, deliberately overrepresenting some
15 subpopulation in the sample. So they're asking us 10:40AM
16 to consider overrepresenting people from rural areas
17 of Oklahoma or from areas around the river and lake.

18 Q Why?

19 A I don't remember why they thought this was a
20 good idea. 10:41AM

21 Q Do you think it's a good idea?

22 A No.

23 Q Okay. Why would one want to oversample in a
24 rural other or the area around the lake?

25 A Generally you oversample a particular subgroup 10:41AM

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1 in order to get more precise estimates from that
2 subgroup.

3 Q Was there a concern about whether or not you
4 would have accurate estimates from rural areas or
5 the study area?

10:41AM

6 A I don't think so.

7 Q Okay. On Comment No. 5, the peer reviewers
8 write there is no information in the survey about
9 substitutes in the survey. What does that refer to?

10 A The reviewer thought that there wasn't enough
11 information about other rivers and lakes.

10:42AM

12 Q And why is that important?

13 A In CV surveys it's customary to remind people
14 there are other goods that they can substitute for
15 the good in question.

10:42AM

16 Q Okay. So the point in a CV survey would be to
17 remind people that they could use a different lake
18 other than Tenkiller?

19 A That's right.

20 Q If you look at Page 3, Section 2, Paragraph
21 19, it says is the resolution of photographs
22 portraying algae how it really looks in the water on
23 a typical day; do you see that?

10:42AM

24 A Yes, I do.

25 Q Did you understand the peer reviewers to be

10:43AM

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1 asking if the photographs accurately depicted how
2 the subject looked in the lake?

3 **A** Say that again. I'm sorry.

4 **Q** Did you understand this comment to mean that
5 the peer reviewers were asking about how -- whether 10:43AM
6 or not the photographs accurately portrayed how
7 algae appeared in the water on a typical day?

8 MS. XIDIS: Objection to form.

9 **A** I think that's what the reviewer is getting
10 at. 10:43AM

11 **Q** Is it important -- was it important to you in
12 designing this survey that the photographs
13 accurately depict what algae looked like in the
14 lake?

15 **A** There you go again, Colin, is it important. 10:43AM
16 How important? I mean, we wanted the photographs to
17 be accurate.

18 **Q** Okay. So you were trying to get the
19 photographs to be accurate?

20 **A** We were trying to get photographs that 10:44AM
21 accurately illustrated what we said in the
22 questionnaire.

23 **Q** Do you know who provided the photographs that
24 were used in the questionnaire?

25 **A** I don't really know. 10:44AM

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1 happened, none of them fell into the sample.

2 Q Why did -- why did it -- why were you given
3 that list; what was your understanding of the
4 reasons for that list?

5 A I don't have a good understanding. My 10:46AM
6 understanding was that we were not supposed to
7 hassle people who were on the other side in the
8 lawsuit in essence. I'm sure there's a legal term
9 for this, and it was a very small number, you know,
10 relative to the state population, which is probably 10:47AM
11 why none of them fell into the sample.

12 Q So you're testifying that the sample survey
13 names was put together before you received this list
14 of poultry growers from the attorneys in this case?

15 MS. XIDIS: Objection to form. 10:47AM

16 A Yeah, I don't think you understand what I'm
17 saying.

18 Q Maybe I don't.

19 A We got a list. They picked their sample.
20 Before they fielded their sample, they made sure 10:47AM
21 that none of these names were on the list, the
22 sample list. Does that clear it up?

23 Q Yeah, that's clear, uh-huh. Take a look at
24 the Volume I of the Stratus report, if you would.
25 Can you identify for me which chapters of this 10:48AM

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1 report you had a hand in drafting?

2 **A** Had a hand in?

3 **Q** Well, if you can tell me which portions you
4 actually drafted, I would love to hear that.

5 **A** Okay. I took the lead in drafting Chapter 5. 10:48AM

6 I reviewed Chapter 3. I believe one of the more
7 junior staff at Stratus took a first cut at this
8 chapter and then I reviewed it. I edited some
9 sections, in particular Section 3.6, and I gave

10 extensive comments, including suggested rephrasing 10:48AM

11 of much of the rest of it. So I was sort of a
12 secondary author of Chapter 3 but took primary
13 responsibility for the Section 3.6, and I took
14 primary responsibility for Chapter 5. I was -- I
15 had some responsibility for Section 7.2 on the 10:49AM
16 aggregation. I was sort of the populations figures
17 guy.

18 **Q** Anything else?

19 **A** I gave comments on almost every chapter I'm
20 sure, but the primary chapters that I was involved 10:49AM

21 with were 3, 5 and that section in Chapter 7. I was
22 also so heavily involved in the development of the
23 questionnaire that Chapter 4, which is basically
24 excerpts from the questionnaire, you know, I'm very
25 familiar with. I didn't actually draft it but I was 10:49AM

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1 heavily involved in the construction of the
2 questionnaire.

3 Q What are you intending to testify about at
4 trial?

5 A Well, that depends on what the attorneys ask 10:50AM
6 me to do, but I've given you a description of the
7 chapters that I was most heavily involved with, and
8 my assumption would be that the attorneys would ask
9 me to testify about those portions of the study.

10 Q So let me make sure I have the list right. 10:50AM
11 Chapter 5, you were the lead author. Chapter 3, you
12 reviewed and had primary responsibility for Section
13 3.6, and Section 7.2, you were the primary author
14 on?

15 A Well, I think Edward was the primary author, 10:50AM
16 but I provided the population figures and reviewed
17 that carefully.

18 Q Okay, and Chapter 4, you're very familiar with
19 although you didn't draft it?

20 A Right. 10:50AM

21 Q And would you see yourself as testifying with
22 respect to all of those matters that you've just
23 talked about?

24 A I'll be prepared to testify to those areas.
25 It's up to the attorneys what I testify on. 10:51AM

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1 Q Are you prepared to testify about anything
2 else other than those chapters?

3 A There were a couple of appendices that I was
4 heavily involved with.

5 Q Okay. Which appendices? It's listed on -- 10:51AM

6 A E and F, I think. Let me double-check. Yeah,
7 E and F.

8 Q Okay. Anything else?

9 A No, sir.

10 Q Have you discussed with the attorneys what you 10:51AM
11 will testify about at trial?

12 A We have not discussed that.

13 Q So you were the primary author of Section 3.6;
14 right?

15 A That's right. 10:52AM

16 Q All right, and that's the section about the
17 pilot testing?

18 A The field tests, that's right.

19 Q Okay. What role did focus groups play in the
20 questionnaire development? 10:52AM

21 A We relied on focus groups heavily to assess
22 what people knew about the area and how they
23 responded to the information we presented them. I
24 mean, we used a lot of focus groups, and we made a
25 lot of changes to the questionnaire based on what we 10:52AM

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1 heard in the focus groups.

2 **Q** Tell me how these focus groups were conducted.

3 **A** We worked with a local firm, Consumer Logic,

4 which recruited people and got them to come to the

5 focus group facility. Rich Bishop or David 10:53AM

6 typically led the focus group discussions. The

7 focus group typically consisted of nine or ten

8 people. We had a draft scenario in virtually every

9 focus group, if not every single one, and Colleen

10 Donovan was drafted into the role of reading the 10:53AM

11 scenario aloud to the respondents, and then we had

12 various questions that we asked the respondents as a

13 result of what they heard, things like was there --

14 did they have any questions, did they -- what did

15 they think as a result of the information, could 10:53AM

16 they paraphrase the information and so on.

17 **Q** Why did you use focus groups as a way to

18 obtain information about what people knew about the

19 area and the problem?

20 **A** Focus groups are a pretty standard tool for 10:54AM

21 developing questionnaires, and a lot of techs on

22 survey design recommend the use of focus groups. We

23 found it very helpful to understand what people

24 thought about the river and lake and how they

25 reacted to the information we were presenting them 10:54AM

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1 and so on.

2 Q Are there particular strengths or limitations
3 associated with using focus groups for developing a
4 survey questionnaire?

5 A Focus groups have a number of strengths. They 10:54AM
6 allow you to get input from a lot of -- a reasonably
7 large number of people quickly. You get very rich
8 information from the people. You get to hear them
9 verbalize their thoughts. It's not a particularly
10 expensive method as compared to doing a field test 10:54AM
11 per se. So those are some of the strengths.

12 The key weaknesses, that focus group
13 volunteers are volunteers. They're not a
14 representative sample, and they, you know, are
15 peculiar in various ways perhaps, but, you know, we 10:55AM
16 felt we were getting useful information from them,
17 and we did a lot of them.

18 Q How many focus groups did you do?

19 A Let me consult the report.

20 Q Sure. 10:55AM

21 A Well, we did them on these various dates.
22 It's hard to say. Sometimes we did two and
23 sometimes we did three. That's why I'm hesitating
24 to give you a final number.

25 Q That's fine. You're looking at -- 10:56AM

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1 **A** Table 3-3, yeah. So we did, yeah, at least
2 20.

3 **Q** And these are the locations you did the focus
4 groups in?

5 **A** Yes. 10:56AM

6 **Q** Is there a concern about the amount of
7 information that's provided in the focus groups; is
8 that an issue that you worry about?

9 **A** I'm not sure what you mean. I'm sorry.

10 **Q** Well, the focus groups, my understanding of 10:56AM
11 them is they give you an opportunity to kind of
12 really educate and talk to the members of the focus
13 group. Was there a concern that you provide the
14 recipients with too much information?

15 MS. XIDIS: Objection to form. 10:56AM

16 **A** Let me say a couple of things. In the most
17 standard use of the focus group, there would be
18 considerably less information presented than we
19 presented to our respondents I think. I think
20 that's -- we weren't worried about that, though. I 10:57AM

21 mean, our purpose was to get a sense of were we
22 conveying information to people, how did they react
23 to that information. So, no, I don't think we had a
24 concern that we were presenting too much
25 information. 10:57AM

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1 Q Did you do any testing to see whether or not
2 it did have an impact?

3 A We did not.

4 Q Is there a potential concern in using focus
5 groups that one or two of the respondents might sway 10:59AM
6 the entire group?

7 A That is a concern.

8 Q How do you control for that?

9 A You can't.

10 Q Did you observe the focus groups? 10:59AM

11 A Many of them.

12 Q Do you think that the respondents considered
13 the moderators as part of the expert team rather
14 than independent impartial observers?

15 A I don't know what the respondents thought the 10:59AM
16 participants in the focus group thought.

17 Q You didn't make any observations about that?

18 A I don't think we ever asked the respondents
19 what they thought, and I didn't make any inference
20 from, you know, any spontaneous comments. 11:00AM

21 Q Now, how did that work when you were observing
22 the focus group; how would you do that?

23 A Mostly we were in focus group facilities that
24 had -- I can never remember whether the term is a
25 one-way mirror or two-way mirror. We stood behind a 11:00AM

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1 glass where we could see them and they saw a mirror.

2 That was the most common arrangement. Couple of

3 times we were in a different room and we were

4 watching them via videotape. A couple of times I

5 listened in by phone from a distance.

11:00AM

6 **Q** And what are you looking for when you observe

7 these focus groups; what do you hope to learn?

8 **A** In this particular case, we really were

9 interested in whether people could take the

10 information in, whether they believed it, whether

11:00AM

11 they made inferences or assumptions that were, you

12 know, wrong or led them to -- down, you know, a path

13 that we didn't want them to go. You know, we were

14 just trying to get their reactions to this

15 information basically.

11:01AM

16 **Q** Did you have a reaction to the focus groups

17 you observed; any conclusions you drew from

18 observing the focus groups?

19 **A** Sometimes people would say things that made us

20 realize we had a problem to deal with in the

11:01AM

21 questionnaire. They didn't accept a certain piece

22 of information we gave them or they, you know,

23 objected to something or their own experiences were

24 out of line with what we were telling them. Yeah,

25 so often I felt like that focus groups were

11:01AM

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1 terrifically useful and that they made it clear that
2 we had issues we had to deal with in the
3 questionnaire.

4 **Q** Did the respondents look to the moderators to
5 answer any of the questions that they had? 11:02AM

6 **A** They often asked questions about the
7 situation, and we noted those questions down.
8 Sometimes the moderator answered the questions and
9 sometimes they deliberately didn't. They would
10 explain that we want to have your reaction to this 11:02AM
11 information. Later on I'll answer your questions if
12 I know the answer. Sometimes we didn't know the
13 answer. They would ask us questions to things we
14 just didn't know the answers to, or Rich and David I
15 should say. 11:02AM

16 **Q** Does the fact that people ask questions of the
17 moderator tell you anything about what the
18 respondents think about the moderator?

19 **A** I don't know. I mean, we were mostly
20 interested in the content of their questions to see 11:02AM
21 what people wanted to know that we hadn't told them.

22 **Q** Is it typical in focus groups that the survey
23 respondents ask questions of the moderator?

24 **A** The participants.

25 **Q** The participants, thank you. 11:03AM

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1 **A** Yeah. I don't know. It's not atypical.

2 **Q** Did you videotape these focus groups?

3 **A** No.

4 **Q** Do you typically videotape focus groups?

5 **A** Sometimes we do; sometimes we don't. 11:03AM

6 **Q** In the situations where you were in another
7 room and you were watching it over a TV screen, was
8 that video?

9 **A** I don't think we videotaped anything.

10 **Q** If you had, Consumer Logic would have those 11:03AM
11 videotapes?

12 **A** I'm pretty sure we didn't.

13 **Q** Okay.

14 **A** If they exist, Consumer Logic would have them
15 I suppose, but -- 11:03AM

16 **Q** In conducting these focus groups, did you
17 believe that the respondents needed to be told about
18 the injuries to Tenkiller Lake and the Illinois
19 River?

20 **A** I think in almost every focus group we 11:04AM
21 included some description of the situation of the
22 river and lake, yes.

23 **Q** In this case you did some focus groups after
24 the first pilot study was done; correct?

25 **A** Let's check our dates. 11:04AM

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1 Q Sure.

2 A The first pilot study is the one done in April
3 of 2008 and, yes, we continued doing focus groups
4 afterwards.

5 Q Why did you do focus groups after the first 11:04AM
6 pilot study?

7 A I can't remember the specific reason. We
8 continued to do focus groups because people had
9 issues with the questionnaire. It may have been as
10 a response to Kerry's criticism or Norman's 11:05AM
11 criticisms. It may have been a response to
12 something we found in the data in the pretest. I'm
13 not sure. We felt like we could improve the
14 questionnaire, and so we went back and made some
15 changes and went back and tested them in these focus 11:05AM
16 groups.

17 Q What information were you trying to obtain
18 through these focus groups?

19 A We were just trying to see how people reacted
20 to the questionnaire, if they had things they didn't 11:05AM
21 believe, if there were inferences they made that
22 just were inappropriate. I mean -- well -- just we
23 were just trying to get their sense of how they
24 react to the questionnaire. Did they believe it;
25 did they understand it; did they believe other 11:05AM

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1 things that, you know, weren't presented.

2 **Q** How is it possible to compare the results of
3 different focus groups when several things are
4 changing each time?

5 **A** We never intended to do the focus groups as an 11:06AM
6 experimental design where you could compare one
7 focus group with another focus group. Problems
8 would surface in the focus group. People would say
9 something, and we'd think oh, my, gosh, they're not
10 getting this or they need this other piece of 11:06AM
11 information, and we'd make whatever changes we
12 thought seemed reasonable that would solve this
13 particular problem that we just observed.

14 **Q** What about with respect to the two pilot
15 studies; were you hoping to compare the results of 11:06AM
16 those two pilot studies?

17 **A** The -- these were the field tests you're
18 referring to?

19 **Q** Yeah.

20 **A** It's confusing the terminology. 11:06AM

21 **Q** Okay.

22 **A** Yeah. No, we weren't. We thought we had
23 problems in Pilot 1 and we went out with Pilot 2 to
24 make sure that things looked good before we went
25 into the field with the main study. 11:07AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 Q So what was the point of doing the second
2 pilot study?

3 A I mean, I'd have to go back and look at
4 specifically what we were trying to accomplish, but
5 in general when you -- before you go out with a big 11:07AM
6 complicated study, you like to do a dress rehearsal
7 where you basically field the real questionnaire
8 under realistic circumstances and make sure
9 everything works, so that when you go out with the
10 main study, you don't crash and burn and waste a 11:07AM
11 million dollars or whatever, and so I think the
12 Pilot 2 was pretty close to the final survey that we
13 wanted to field, and so we just wanted to give it
14 one final test to make sure that it was going to
15 accomplish what we'd hoped. 11:07AM

16 Q Wasn't there statistical analysis done in
17 connection with the pilot studies and the last focus
18 groups?

19 A I know we analyzed the data from the pilot
20 studies. I don't think we did a lot of statistical 11:08AM
21 analysis on the focus groups, no.

22 Q Okay. Why did you do statistical analysis on
23 the pilot studies?

24 A We had a reasonable sample size and, you know,
25 we just wanted to look at the results and, you know, 11:08AM

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ROGER TOURANGEAU, PhD, 4-8-09**101**

1 analyze them. I mean, we -- you know, the sample
2 sizes were large enough to support statistical
3 analysis. The focus groups had an equal nine or
4 ten. It doesn't really support much in the way of
5 statistical analysis.

11:08AM

6 **Q** You used photographs in the survey
7 questionnaire; correct?

8 **A** True.

9 **Q** Do you agree that in some circumstances photos
10 can be extremely useful for presenting information
11 in a survey?

11:09AM

12 **A** Yes.

13 **Q** What circumstances can photographs be
14 extremely useful?

15 **A** Gee, I feel like I'm taking a test here. One
16 set of circumstances where photographs I think are
17 helpful is in brand recognition and other contexts,
18 when you are trying to say do you know this product,
19 and often a photograph of the product or magazine or
20 something is useful way of identifying the object in

11:09AM

11:09AM

21 question. I've actually done research on using
22 photographs to give people examples of a target
23 category, you know, for example, photographs of
24 people shopping in different settings, and that has
25 some pros and cons. Photographs are very specific.

11:10AM

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1 So if you're going for a general category, the
2 photograph you present can have an impact on how
3 people construe that category. So if you show
4 people grocery shopping and you ask them about
5 shopping, they think you mean grocery shopping, that 11:10AM
6 sort of thing.

7 Q That's true, by the way. I was thinking
8 grocery shopping. Go ahead.

9 A You must be a woman then.

10 Q Yeah. Can't you tell? 11:10AM

11 A In our case we were just trying to be clear
12 about what we meant by, you know, our verbal
13 descriptions of the conditions in the river and
14 lake. So we picked photographs that we thought
15 accurately reflect -- accurately illustrated what we 11:10AM
16 were saying in the questionnaire.

17 Q I understand why photos would be useful in
18 brand recognition. What makes them useful in
19 contexts like this questionnaire?

20 A We were just trying to be very clear about 11:11AM
21 what we were talking about, and so we used
22 photographs to illustrate what we were talking
23 about.

24 Q Do photographs provide information that a
25 respondent retains more readily than information 11:11AM

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1 that is only provided verbally; do you understand my
2 question?

3 **A** Yeah. I don't think there's a general
4 advantage to visual material over verbal material in
5 terms of its either salience or memorability. I 11:11AM
6 haven't done a review of literature on this
7 question, but based on my own work, sometimes people
8 seem to take in and utilize verbal information more
9 effectively than they do pictorial information.

10 Other times it's the reverse. I'm not -- I don't 11:12AM
11 think there's a general rule here.

12 **Q** Does that vary depending upon the respondent?

13 **A** It might. I don't know.

14 **Q** Has there been any research on whether
15 respondents remember what they see in a photograph 11:12AM
16 more readily than what they are told or read?

17 **A** There's some studies that I've done where
18 we've compared visual with verbal examples, and I
19 was trying to summarize the results before when I
20 said there doesn't seem to be a rule that visual 11:12AM
21 examples have more impact than verbal ones.

22 **Q** Were you involved in selecting the photographs
23 that were used in the questionnaire?

24 **A** Yes.

25 **Q** Tell me about your involvement. 11:13AM

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ROGER TOURANGEAU, PhD, 4-8-09**104**

1 **A** We would show the photographs in these focus
2 groups. That's one of the things we used the focus
3 groups for and get people's reactions to them, you
4 know, were they clear, what did they depict, were
5 they consistent with the language in the 11:13AM
6 questionnaire, stuff like that.

7 **Q** Based on what you learned in the focus groups,
8 did you change the photographs that you were using?

9 **A** You mean use different photographs?

10 **Q** Yes, use different photographs. 11:13AM

11 **A** Yes.

12 **Q** So you tried different photographs in
13 different focus groups?

14 **A** We did.

15 **Q** And what was the point of -- what were you 11:13AM
16 trying to accomplish by trying different
17 photographs?

18 **A** In some cases the scenario had changed, and
19 the photographs we had started with were no longer
20 appropriate. I mean, they just didn't fit what we 11:14AM
21 were saying in the questionnaire. In other cases,
22 the photographs that we thought looked great, the
23 respondents could hardly see, that kind of thing.
24 You know, we just got their reactions, and we were
25 trying to pick photographs that, you know, 11:14AM

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1 accurately illustrated what we were saying in the
2 questionnaire. So as the questionnaire changed, the
3 pictures had to change, and also sometimes people,
4 either they couldn't see the photograph or they had
5 some beef with the photograph and some objection. 11:14AM

6 Q Is there any literature about how respondents
7 react when they are given a lot of verbal
8 information and there's a photograph that's sitting
9 in front of them the whole time they're being given
10 the verbal information? 11:14AM

11 A I don't know of any literature on that topic.

12 Q Okay. Have you ever looked into that issue?

13 A No.

14 Q Okay. Do you have an opinion on how that
15 might affect a respondent? 11:15AM

16 A It would be speculation. I don't have a
17 formed opinion about that.

18 Q Can you think of a way that the limited extent
19 of algae growth could have been presented using
20 diagrams or photos? 11:15AM

21 A Say more. Could you be more specific, please?

22 Q Well, I think the facts are that there's not
23 algae everywhere in Tenkiller Lake and the Illinois
24 River, and it's not always present in Tenkiller Lake
25 and the Illinois River. So I'm asking you if you 11:15AM

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1 can think of a way that you could provide that
2 information to the respondents using photographs or
3 diagrams.

4 MS. XIDIS: Objection to form.

5 **A** I can't say how you would do that through 11:16AM
6 photographs to be honest with you.

7 **Q** Okay. What about through diagrams?

8 **A** I think we tried to be as specific as we could
9 given the information that we had from the
10 scientists at the time, the natural scientists, and 11:16AM
11 I don't -- I don't think we would have rejected
12 using a diagram, but the information was
13 sufficiently uncertain that, you know, it's hard
14 to -- it wasn't clear to us how we could make it any
15 clearer to the respondent. 11:16AM

16 **Q** We have to make a tape change and we'll go
17 right back.

18 VIDEOGRAPHER: We're off the Record at
19 11:16 a.m.

20 (Following a short recess at 11:16 11:16AM
21 a.m., proceedings continued on the Record at 11:22
22 a.m.)

23 VIDEOGRAPHER: We're on the Record at 11:22
24 a.m.

25 **Q** Dr. Tourangeau, is it important that the 11:23AM

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1 photographs used in the questionnaire match the text
2 in the questionnaire?

3 **A** We were trying to select photographs that
4 illustrated the text.

5 **Q** Okay. So your goal was to have the 11:23AM
6 photographs illustrate the text?

7 **A** That's right.

8 **Q** Why did the questionnaire include a photo of
9 alum from a grocery store shelf?

10 **A** We wanted people -- to remind people what alum 11:24AM
11 was if they had ever used it or experienced it. We
12 wanted also people to be confident that it didn't
13 have adverse health effects.

14 **Q** Let's talk a little bit about respondent
15 comprehension. If a respondent doesn't understand 11:24AM
16 the information that's presented in a survey, how
17 does that affect the results of the survey?

18 MS. XIDIS: Objection to form.

19 **A** Yeah, it's awfully vague. You know, it could
20 be they give -- still give an accurate answer. It 11:24AM
21 could be they give an inaccurate answer.

22 **Q** Are you as an expert in survey methodology
23 concerned about whether or not the respondent
24 understands the information presented in the survey?

25 **A** It's better for respondents to understand the 11:25AM

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1 questions for sure.

2 Q Why is that?

3 A Well, the assumption is that they're more
4 likely to give an accurate answer when they
5 understand the questions than when they don't.

11:25AM

6 Q How do you as a survey researcher determine
7 whether or not the respondents actually understand
8 the questions?

9 A Mostly through the pretesting process. You do
10 these things like focus groups and one-on-one
11 interviews to make sure that people really do get
12 the information.

11:25AM

13 Q So the focus groups and pretests tells you
14 whether the people in the focus groups and the
15 pretests actually got the information?

11:25AM

16 A That's right.

17 Q What do you do with respect to the respondents
18 of the base survey to assure that they understand
19 the questions?

20 A In a sense there's not much you can do. You
21 try to write questions that you've thoroughly
22 pretested so that you're confident that the actual
23 respondents get them.

11:26AM

24 Q So the pretesting is important to make sure
25 respondents comprehend the questions?

11:26AM

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1 **A** Right, and in addition, we had two experts in
2 questionnaire design who tried to craft questions --
3 who crafted questions that were easy for people to
4 understand.

5 **Q** Anything else you did to try to make sure that 11:26AM
6 the respondents comprehended the questions?

7 **A** Not that I can think of.

8 **Q** Is there a baseline that you try to obtain --
9 strike that. Let me start over. Is there a
10 guideline you follow in terms of the percent of 11:27AM
11 respondents who have to understand a questionnaire
12 in order for it to be acceptable?

13 MS. XIDIS: Objection to form.

14 **A** There's no such guideline.

15 **Q** Okay. Do survey researchers sometimes exclude 11:27AM
16 answers because they believe that the respondent
17 didn't understand the question?

18 **A** I can't think of any instances of that, no.

19 **Q** Why is that?

20 **A** How would the researcher know that the person 11:28AM
21 didn't understand the question?

22 **Q** Well, don't you do follow-up questions to try
23 to ascertain whether or not you think the
24 questioner -- I'm sorry, the respondent was
25 understanding the question? 11:28AM

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1 **A** That isn't typical, number one, and, number
2 two, we ask in our survey certain follow-up
3 questions about what they believed at the time they
4 asked, you know -- you know, they answered the main
5 willingness to pay question, but mostly that wasn't 11:28AM
6 about their understanding. It was about what they
7 believed at that time. I mean, they could have well
8 understood what we told them without necessarily
9 believing it.

10 **Q** There's a difference between believability and 11:28AM
11 understanding; that's what you're saying?

12 **A** Well, yes. You can understand things that you
13 disbelieve.

14 **Q** When compared to other surveys you've worked
15 on, how does this survey compare in terms of the 11:29AM
16 amount of information that was provided to the
17 respondents?

18 **A** This survey and CV surveys generally present a
19 lot of information to the respondents relative to
20 other surveys I've worked on. 11:29AM

21 **Q** Do you believe that all the respondents were
22 mentally able to process the information that was
23 provided in the CV questionnaire?

24 MS. XIDIS: Objection to form.

25 **A** Yeah, mentally able? 11:29AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 Q Were any of the respondents drunk when they
2 took the survey?

3 A Apparently one of the interviewers thought one
4 of the respondents was drunk.

5 Q Does that matter in terms of whether that 11:30AM
6 respondent was mentally able to process the
7 information presented?

8 A I can't say. I don't know whether the
9 interviewer accurately captured what -- the state of
10 the respondent and I don't know how incapacitated 11:30AM
11 that respondent was, so I have no idea.

12 Q How do you control for factors like a
13 respondent being drunk when you are giving surveys?

14 A Well, you try to prevent it. You know, you
15 give the interviewers instructions about sort of 11:30AM
16 having the -- doing the interview in quiet

17 conditions where the respondent is relatively
18 undistracted, but survey research is a complicated
19 business, and, you know, sometimes you don't get

20 ideal circumstances for interviews. That doesn't 11:30AM
21 mean the data are invalid. It just means that, you
22 know, they may not be as good as they could have

23 been or, you know, the interviewer -- interview may
24 not have been conducted under optimal circumstances,
25 but it could be that the allegedly drunk respondent 11:31AM

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1 was paying attention and gave answers that were
2 completely consistent with his or her preferences.

3 Q What are the ideal conditions for this kind of
4 survey?

5 A It's standard practice in surveys to try to 11:31AM
6 interview people in a quiet place where other people
7 aren't present and where, you know, the respondent
8 can focus on the task at hand. I think it's quite
9 common in surveys, even very, very good surveys that
10 are models for other surveys, that these conditions 11:31AM
11 aren't perfectly met.

12 Q What does the term respondent fatigue mean in
13 connection with surveys?

14 A It means that respondents get tired. I think
15 it typically refers to the fact that in a long 11:32AM
16 questionnaire, they may pay less attention at the
17 end than at the beginning. It's largely a
18 hypothetical notion. I don't think there's a lot of
19 evidence of diminishing attention over the course of
20 an interview. 11:32AM

21 Q Is there any literature on when respondent
22 fatigue sets in in terms of hours or minutes?

23 A No. I mean, there are some studies that use
24 very long interviews that get very good data. As I
25 said, I think this notion of respondent fatigue is 11:32AM

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ROGER TOURANGEAU, PhD, 4-8-09**113**

1 largely hypothetical, more a matter of lore than of
2 science.

3 Q Are there any guidelines or bright lines that
4 you follow in terms of questionnaire length?

5 A I personally think that questionnaire length 11:32AM
6 is not the issue. If people are interested in a
7 topic and they're enjoying the questions and they're
8 able to answer them easily, I think they'll go on
9 answering for a very long time. Surveys are one of
10 the few times in life where another person is 11:33AM
11 listening with extreme care to what you have to say
12 and most people enjoy it.

13 Q The other, of course, would be a deposition;
14 right?

15 A It's way better than being a college 11:33AM
16 professor, let me tell you. That's true. In a
17 survey they ask better crafted questions on average
18 than in a deposition I'm afraid, more carefully
19 pretested questions.

20 Q That's true. 11:33AM

21 A You probably didn't focus group test these
22 questions, did you?

23 Q No. When -- how does this survey compare in
24 terms of complexity of the information that the
25 respondents had to process and understand compared 11:34AM

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ROGER TOURANGEAU, PhD, 4-8-09**114**

1 to other surveys you've worked on?

2 **A** I would say this survey is moderately complex.

3 A study I worked on at the National Opinion Research

4 Center, for example, the National Medical

5 Expenditure Survey, interviewed people four times

11:34AM

6 over their medical costs and utilization over a

7 one-year period. Each interview lasted more than an

8 hour. It was all about the medical care that the

9 entire family received. I think that was much more

10 difficult, for example, than this survey. Many

11:34AM

11 federal surveys that gather issues on important

12 topics for policy ask lengthy complicated

13 questionnaires against which our CV study looks

14 pretty simple.

15 **Q** Do those surveys provide as much narrative

11:35AM

16 information as this survey does?

17 **A** No, not typically, but in many ways they place

18 even more burdens on the respondent to gather

19 information, to get records, checkbooks, other

20 things. I mean, they're much more burdensome I

11:35AM

21 think than this particular survey and including

22 cognitive burdens.

23 **Q** Isn't it more difficult to continue to pay

24 attention when someone is reading to you for a

25 lengthy period of time as opposed to the back and

11:35AM

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1 forth of a question and answer?

2 **A** I'm sorry. Say it again.

3 **Q** Isn't it more difficult to continue to pay
4 attention when someone is reading text to you for a
5 lengthy period of time?

11:35AM

6 **A** I'd rather read text than listen to these
7 lengthy questions, Colin. I don't know. I think it
8 really depends on the text and so on. I mean,
9 lengthy verbal questions that are real complicated
10 like the one you just asked are pretty hard to
11 process, and having material that's carefully
12 crafted with short simple sentences read to you can
13 be a lot easier than that.

11:36AM

14 **Q** And that's the type of survey that you were
15 doing in the National Medical Expenditure Survey,
16 isn't it?

11:36AM

17 **A** Which type?

18 **Q** You'd be asking them short questions about
19 illnesses they've had or medical costs.

20 **A** They were pretty complicated questions in that
21 survey.

11:36AM

22 **Q** What does the term scenario acceptance mean?

23 **A** In this context it means whether or not people
24 accepted -- you know, believed the information we
25 presented them.

11:36AM

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ROGER TOURANGEAU, PhD, 4-8-09

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1 **Q** And if they don't believe the information, how
2 does that affect the survey?

3 **A** In some cases it can increase people's
4 willingness to pay. In some cases it can decrease
5 people's willingness to pay. In some cases it can 11:37AM
6 have no effect on their willingness to pay.

7 **Q** How do survey researchers determine whether
8 the respondents accept the material?

9 **A** In our survey, we asked a series of follow-up
10 questions that asked them what they thought, what 11:37AM
11 they believed.

12 **Q** And what are those questions? Can you point
13 me to them?

14 **A** Starting around Question 25 on Page 8-23.

15 **Q** Okay. 11:38AM

16 **A** And ending at around Q-36 perhaps.

17 **Q** Again, is there a bright line or guideline
18 that survey researchers follow in terms of scenario
19 acceptance?

20 **A** This isn't typical for surveys to present 11:38AM
21 scenarios so that it's -- your question is sort of
22 misconceived, I'm sorry. No, there's no guideline
23 that I'm aware of, but it wouldn't be a survey
24 research guideline. It would be a guideline in the
25 continued valuation literature or some other 11:39AM

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ROGER TOURANGEAU, PhD, 4-8-09**117**

1 literature that, you know, looks at this kind of
2 survey.

3 Q Okay. So you're not aware of any guideline
4 about whether a certain percentage of the
5 respondents had to understand the question in order
6 for the survey to be valid?

11:39AM

7 A There's no such guideline that I'm aware of.

8 Q If there are indications in your survey that a
9 respondent did not accept the scenario but still
10 votes for the program, what can explain that
11 inconsistency?

11:39AM

12 A Well, let's just take one concrete case.

13 Suppose they didn't think the situation was very
14 serious in the lake. They might still vote for the
15 program because they want to clean up the river.

11:40AM

16 You really have to look at the totality of what they
17 thought to try and understand why they came to the
18 decision they came to, and unfortunately we only
19 asked them about ten or eleven things, and there
20 might be other beliefs. There were often times in
21 the focus group where respondents gave answers we
22 found hard to understand, and then they'd say
23 something and it was clear why they voted the way
24 they did.

11:40AM

25 Q Okay. In terms of how survey respondents

11:40AM

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ROGER TOURANGEAU, PhD, 4-8-09**118**

1 think when they're answering a survey like this, in
2 terms of their mental processing, how do they go
3 about filling in information that's not provided in
4 the questionnaire when they are thinking about an
5 answer?

11:41AM

6 **A** Well, it's not clear that they necessarily do
7 a lot of filling in in a survey like this. I mean,
8 it could be that they just base their reasoning on
9 the information they have at hand or it could be
10 that they do make inferences based on their life
11 experiences and so on and, you know, they make
12 inferences just like people make inferences in
13 everyday life. They -- you know, based on their
14 knowledge of the world and their assumptions about
15 how things work and so on, they may, you know, fill
16 in pieces that we didn't provide them.

11:41AM

17 **Q** Do the inferences that people make or the
18 assumptions that people make vary from person to
19 person?

20 **A** It could vary.

11:41AM

21 **Q** Do you have an understanding of why they could
22 vary from person to person?

23 **A** People have different life experiences and
24 different values and so on.

25 **Q** And they bring those life experiences to the

11:42AM

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1 questionnaire?

2 **A** That's right.

3 **Q** How do you, as a survey designer, guard
4 against respondents filling in missing information
5 with these life experiences, these inferences? 11:42AM

6 **A** You don't necessarily want to guard against
7 that. I mean, you want people to express their
8 values and beliefs in a survey typically, and so you
9 don't necessarily want to guard against their
10 bringing those to bear on the question at hand. In 11:42AM
11 our case, for example, we definitely wanted people
12 to express their views on this particular issue and
13 the underlying values, things like their attitudes
14 towards the environment and so on, we wanted that to
15 come through. It seemed perfectly reasonable to us 11:42AM
16 that that would be a basis for answering our
17 questions.

18 **Q** In the questionnaire you told the respondents
19 that 40 percent of the phosphorus loading was due to
20 other causes. Do you recall that? 11:43AM

21 **A** Yes, I do.

22 **Q** If the respondents believed that, they would
23 understand that 40 percent of the future phosphorus
24 loadings would continue even if both the alum
25 treatments and the litter ban were implemented; 11:43AM

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1 correct?

2 MS. XIDIS: Objection to form.

3 **A** I don't know what they believed about future
4 loadings. The questionnaire tried to persuade them
5 that phosphorus wouldn't continue to be deposited in 11:43AM
6 the river and lake, but the State would take steps
7 to prevent phosphorus from these other sources to
8 come into the river and lake, and that the ban would
9 reduce the phosphorus due to the poultry litter.

10 **Q** So your goal in designing the survey was to 11:44AM
11 tell the survey respondents that phosphorus would no
12 longer flow into the river and lake?

13 **A** Except what was already there, which the alum
14 was designed to take care of. I mean, we heard in
15 focus groups people say you can't clean this up 11:44AM
16 while new phosphorus continues to pollute the
17 system. So we tried to craft our scenario so that
18 people thought that new phosphorus wouldn't come
19 into the system.

20 **Q** Did you check -- strike that. Did you attempt 11:44AM
21 to determine if it was factually accurate that new
22 phosphorus would not come into the system?

23 **A** I don't think we checked.

24 **Q** If it's inaccurate that new phosphorus -- let
25 me try again. If what you were telling the 11:45AM

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1 respondents was incorrect, that is, that there would
2 continue to be phosphorus loading on that -- on this
3 system, did that matter to the outcome of the
4 survey?

5 MS. XIDIS: Objection to form. 11:45AM

6 **A** Yeah. We asked them to respond to a situation
7 in which no new system -- no new phosphorus came
8 into the river, the watershed.

9 **Q** Uh-huh.

10 **A** And alum treatments were used to neutralize 11:45AM
11 the existing phosphorus. That's what we asked them
12 to do.

13 **Q** And this is -- this goes back to the
14 injunction question. You told them that the federal
15 court would issue an injunction preventing the 11:46AM
16 application of additional poultry litter; correct?

17 MS. XIDIS: Objection to form.

18 **A** We said the alum treatments would only be done
19 if such a ban were imposed.

20 **Q** Did you tell the survey questionnaires that if 11:46AM
21 poultry litter were banned as a fertilizer, other
22 chemical fertilizers would be used instead on
23 farmers' fields?

24 **A** You misphrased the question. Would you try
25 again? 11:46AM

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1 **Q** Did you tell the respondents that if poultry
2 litter were banned, farmers would use other
3 fertilizer on their fields?

4 **A** No, I don't think we told them that. Could I
5 double-check, though?

11:46AM

6 **Q** Sure.

7 **A** I don't think we told them that, no.

8 **Q** Do you think it would have been important to
9 tell respondents that information?

10 **A** No, we didn't tell them that information
11 because we didn't think it was important to tell
12 them that information.

11:47AM

13 **Q** Why not?

14 **A** We wanted them to value a recovery, a
15 restoration of the river and lake to these
16 conditions that existed previously before there was
17 this excess phosphorus, and so we created a scenario
18 in which the system recovers more quickly, and
19 that's what we asked them to value. We didn't ask
20 them to value some other scenario with some other
21 set of facts.

11:47AM

11:47AM

22 **Q** And I guess we're back to the questions we
23 talked about earlier. Was it important to the
24 survey methodology that the scenario you presented
25 to the respondents be a valid scenario, a scenario

11:48AM

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1 that could actually occur?

2 MS. XIDIS: Objection to form, asked and
3 answered.

4 **A** Do I need to answer? As I stated earlier,
5 what was important to us is that people believed 11:48AM
6 that if these actions were taken, the river and lake
7 would return to these baseline conditions more
8 quickly.

9 **Q** And if in actuality if the program was
10 enacted, the river did not return to the baseline 11:48AM
11 conditions more quickly, did that affect the outcome
12 of the survey?

13 **A** No.

14 **Q** Okay. Did you tell the survey respondents
15 that the State of Oklahoma regulates the application 11:49AM
16 of poultry litter on farm fields?

17 **A** No, I don't think we told them that.

18 **Q** Do you think it would have been important to
19 have told them that the State of Oklahoma regulates
20 the application of poultry litter on fields? 11:49AM

21 MS. XIDIS: Objection to form.

22 **A** We didn't think it was important to tell them
23 that, no.

24 **Q** Do you think any of the respondents might have
25 changed their votes if they were told that the State 11:49AM

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1 of Oklahoma regulates the application of poultry
2 litter on farmers' fields?

3 MS. XIDIS: Objection to form.

4 COURT REPORTER: I'm sorry. What was your
5 answer?

6 **A** I don't know what they would have done.

7 **Q** How did you, as the designer of this survey,
8 decide what information to give people and what
9 information to withhold from them in designing the
10 questionnaire? 11:50AM

11 **A** I'm not the designer of this survey. A team
12 designed this survey. We decided what to put in the
13 questionnaire and what to leave out of the
14 questionnaire based on the extensive process that we
15 went through. We were trying to -- well, based on 11:50AM
16 the extensive process we went through and the expert
17 judgment of the CV experts on our team and of the
18 questionnaire design experts on our team.

19 **Q** Did you tell the respondents that there were
20 140 million chickens and turkeys? 11:50AM

21 **A** I believe we did. Let me check, though. Yes,
22 we did.

23 **Q** So you chose to tell them that there were 140
24 million chickens and turkeys, and then there was
25 other information that we just talked about that you 11:51AM

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1 chose not to tell them. Why did you make that
2 determination?

3 MS. XIDIS: Objection to form.

4 **A** I don't remember specifically why we included
5 this figure in here. It could be that somebody in a 11:51AM
6 focus group said, well, how many chickens and
7 turkeys are there in the area, and that was
8 important to people.

9 **Q** Did you tell them how many wastewater
10 treatment plants were in the area? 11:51AM

11 **A** Nope.

12 **Q** Why did you choose to tell them there were 140
13 million chickens and turkeys in the area but not
14 choose to tell them how many wastewater treatment
15 plants were in the area? 11:51AM

16 **A** I just told you. I mean, I'm not sure why we
17 included this specific piece of information in the
18 survey. We were responsive to what we heard in the
19 focus groups. When people said, gee, I'd like to
20 know this, then we tended to include a piece of 11:52AM
21 information in the survey. When people didn't
22 mention wanting to know a piece of information or if
23 they said this was irrelevant, we dropped it, so --

24 **Q** You did tell them that 40 percent of the
25 phosphorus came from other sources? 11:52AM

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1 **A** We did.

2 **Q** But you didn't get specific about that other
3 40 percent of the phosphorus the way you did about
4 the turkey and chicken litter; correct?

5 **A** Well, we say -- 11:52AM

6 MS. XIDIS: Objection to form.

7 **A** We say it came from sewage treatment plants,
8 fertilizers bought in stores and other sources. We
9 gave some details, some level of detail about that.

10 **Q** Do you think it's appropriate in a survey to 11:52AM
11 present information as being more certain from a
12 scientific perspective than what is really true
13 based on the scientific literature?

14 MS. XIDIS: Objection to form.

15 **A** Read that question again. 11:53AM

16 **Q** Do you think it's appropriate in a survey to
17 present information as being more certain from a
18 scientific perspective than what is really true
19 based on the scientific literature?

20 MS. XIDIS: Objection. 11:53AM

21 **A** It really depends. I don't think there's a
22 general answer to your question.

23 **Q** So sometimes it is appropriate?

24 **A** There could be circumstances where it would
25 just be distracting to talk about the level of 11:53AM

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1 certainty or uncertainty or it could be a
2 hypothetical question. You know, I don't know. I
3 don't have a general rule on that particular issue
4 in my mind, no.

5 **Q** What about in connection with this survey? 11:54AM

6 **A** I don't think we tried to portray information
7 a certain -- you know, I think -- and it's apparent
8 from the responses to the follow-up questions that a
9 lot of people didn't believe what we said about some
10 aspects. So I don't think we misled anybody about 11:54AM
11 the level of certainty associated with the
12 information.

13 **Q** Do you think people might have changed their
14 votes had they known that the alum restoration
15 program was not something that was even evaluated by 11:54AM
16 the State's restoration consultant?

17 MS. XIDIS: Object to form.

18 **A** I don't understand that, so I doubt it would
19 have much impact on them. You want to read it
20 again? 11:54AM

21 **Q** Yeah. You presented the alum restoration
22 program as something that would work, that the State
23 was considering doing in order to solve this
24 problem. Do you think it would have been important
25 to the recipients to know that the State's 11:55AM

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1 restoration expert had not even evaluated it?

2 MS. XIDIS: Objection to form.

3 **A** I think we've been over this a lot of times.

4 What was important to us about the alum program was

5 that people thought it would solve the problem, that 11:55AM

6 they understood it and they accepted it. The

7 State -- who was it -- evaluation expert's view of

8 it, I don't see it as relevant.

9 **Q** Would you agree that people's preferences are

10 essentially constructed during the survey interview? 11:55AM

11 MS. XIDIS: Objection to form.

12 **A** I'm not sure what you mean.

13 **Q** Do you think that people walked into the

14 survey room with an opinion about restoration time

15 periods on the Illinois River and Tenkiller Lake, or 11:56AM

16 do you think that that opinion was formed during

17 this survey process?

18 **A** I think in most surveys answers to most

19 opinion questions are a mix. Some people come into

20 the survey with a readymade answer. Other people 11:56AM

21 have values and beliefs from which they can

22 formulate an answer to the particular question at

23 hand. So it's a blend of people who have a view

24 versus people who don't have a view. Just like when

25 you go into a store or something and you want to buy 11:56AM

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1 something. You may know that you want to buy a suit
2 but you don't necessarily have a view on the
3 particular suits on the rack or, you know, the
4 pricing and so on. You know, you have stuff from
5 which you can formulate an opinion about the suits 11:57AM
6 but you don't necessarily have it all worked out
7 ahead of time that you're going to buy this
8 particular suit at this particular price.

9 Q For those people who formed their preferences
10 based on the survey questionnaire and didn't have 11:57AM
11 any preconceptions before they walked into the --

12 A I didn't say there were people that didn't
13 have any preconceptions. People walk into the
14 survey with their views about the environment, their
15 knowledge of Tenkiller Lake. They may not have any 11:57AM
16 view about the specific restoration program that
17 they hadn't heard of before, but they have views
18 that are relevant. Their opinions don't come out of
19 whole cloth.

20 Q Okay. Can you separate a respondent's answers 11:57AM
21 to the survey from the information that they receive
22 in the survey?

23 A Not really.

24 Q And I think you just said this, but I
25 understood your answer to be that the amount of 11:58AM

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1 information that people bring into the survey room
2 vary depending on the person; is that correct?

3 **A** Sure, that's right.

4 **Q** Do those people who use the resource, in this
5 case the Illinois River and Tenkiller Lake, have a
6 better developed view of those resources than
7 someone who doesn't use the resources?

11:58AM

8 **A** Not necessarily.

9 **Q** Explain your answer.

10 **A** People might avoid using the resource
11 precisely because they have a very highly developed
12 view of the lake. We heard lots of people in the
13 focus groups who would say things like used to scuba
14 dive there but then, you know, my wet suit would
15 stink afterwards because of the pollution and they
16 didn't go there anymore, but they had a very highly
17 developed view of the resource.

11:59AM

18 **Q** Did you think it was important to look at user
19 visits to the resource over time to determine
20 whether or not the public believed that there was a
21 problem with the resource?

11:59AM

22 **A** Let's go through that question again piece by
23 piece.

24 **Q** Did you think it was important --

25 **A** Uh-huh.

12:00PM

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1 cleaning up the river and lake through this alum
2 program. That's what we were after. We weren't
3 after use values or other particular components of
4 value. We were interested in getting this estimate
5 of what people would be willing to pay for this
6 recovery program. That was our goal in the survey.
7 It was not a goal to -- our goal wasn't to look at
8 use values or people who stayed away from the lake
9 and so on.

12:01PM

10 **Q** Did you consider it important to compare the
11 responses of non-users with those of users?

12:01PM

12 **A** Not particularly.

13 **Q** Did you think it was important to compare the
14 responses you obtained in the intercept survey or
15 the telephone survey with the responses you obtained
16 in the CV survey?

12:02PM

17 **A** I don't think there was any comparison to be
18 done.

19 **Q** Why not?

20 **A** The overlapping items is almost nonexistent.

12:02PM

21 **Q** Well, you got information from the intercept
22 survey about people's dislikes and likes of
23 Tenkiller Lake; correct?

24 **A** How could we compare that item -- what item
25 would we compare it to in the questionnaire?

12:02PM

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1 **Q** So you didn't even try to compare it?

2 **A** It wasn't our goal.

3 **Q** Okay. Same with the telephone survey, you
4 didn't even try to compare?

5 **A** That's right. 12:02PM

6 MS. XIDIS: Objection to form.

7 **A** We didn't try to compare. We didn't -- that
8 wasn't our goal in the CV study.

9 **Q** You didn't think that people who had decided
10 not to visit the lake would have a different 12:03PM
11 willingness to pay for cleanup than the other
12 respondents?

13 MS. XIDIS: Objection, form.

14 **A** We weren't attempting to estimate willingness
15 to pay for any particular subgroup. We were 12:03PM
16 interested -- we were attempting to measure overall
17 willingness to pay among the population of the
18 residents of Oklahoma, excluding those who are under
19 18 and the 2 or 3 percent of the population living
20 in the western counties that we excluded for reasons 12:03PM
21 of cost.

22 **Q** And excluding poultry growers?

23 **A** Excluding a very small number of people
24 associated with the poultry industry, none of whom
25 fell into our sample. 12:03PM

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1 **Q** Doesn't your Logic (sic) model explain why
2 people voted the way they did?

3 MS. XIDIS: Objection to form.

4 **Q** Logit model, excuse me.

5 **A** We fit a Logit model to see whether the data 12:04PM
6 followed our intuitions and hypotheses derived from
7 economic theory about how the willingness to pay
8 should be affected by various other variables.

9 **Q** And was one of those variables whether or not
10 the respondent used the resource? 12:04PM

11 **A** Let's look. Let's take a look-see. Well, we
12 included a variable that said whether they used any
13 river or lake for recreation.

14 **Q** And what was the relationship between the
15 number of times a respondent recreated at a river or 12:06PM
16 lake and their vote; was that statistically
17 significant?

18 **A** There was a positive relationship, and it was
19 statistically significant. The more people had gone
20 to rivers and lakes, the more willing they were to 12:06PM
21 pay for the recovery program.

22 **Q** But you didn't test to see whether or not
23 those people who had visited Tenkiller Lake and the
24 Illinois River were more likely to vote for the
25 program or less likely to vote for the program, did 12:06PM

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1 you?

2 **A** I want to double-check Appendix D.

3 **Q** Okay.

4 **A** It might also be in Chapter 6 so I'm looking
5 at Chapter 6 as well. This is not -- I don't seem
6 to have Appendix D.

12:07PM

7 **Q** Let's mark Appendix D, please. I think it's
8 on Page D-7.

9 **A** All right. There doesn't seem to be any
10 relationship between visitation and the willingness
11 to pay, if that's what this table is. This is just
12 the marginals, I guess.

12:08PM

13 MS. XIDIS: Take your time to look.

14 **Q** I think on Page D-7, those are just the
15 marginals; correct?

12:09PM

16 **A** Yeah.

17 **Q** And you'd have to look at the model to arrive
18 at a conclusion?

19 **A** Or even a bivariate table but I don't see a
20 bivariate table. Looking at the relationship
21 between votes and having visited the river and lake.

12:09PM

22 **Q** So there isn't a bivariate table in the
23 materials that you've seen that would allow you to
24 look at that?

25 **A** It's possible I've seen such a table and I

12:09PM

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1 wouldn't -- I would hesitate to try and reconstruct
2 from memory what the result was.

3 Q You can't find it sitting here today. Do you
4 think respondents would have changed their vote if
5 they had known there was substantial disagreement
6 about the effects of the application of poultry
7 litter on water quality in the Illinois River and
8 Tenkiller Lake?

12:10PM

9 MS. XIDIS: Objection to form.

10 A I don't want to get into speculating on what
11 respondents might have done if they had some other
12 set of beliefs. I just don't know.

12:10PM

13 Q What makes it appropriate to provide the
14 respondents with only one side of the story?

15 MS. XIDIS: Objection to form.

12:11PM

16 A We didn't think we were providing the
17 respondents with one side of the story. We went
18 through a careful pretesting process, you know,
19 procedure, where we asked people what they wanted to
20 know, and we crafted a questionnaire. I mean, we
21 gave them information, and we said is there other
22 stuff you want to know or is there stuff we told you
23 you don't need to know and so on, and our
24 questionnaire reflected the information people
25 thought they needed in order to make up their minds

12:11PM

12:11PM

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1 about this proposed restoration project.

2 Q When you say you went through a careful
3 pretesting project --

4 A Process.

5 Q -- process to determine what people wanted to 12:11PM
6 know, did you go through a careful pretesting
7 process to determine if the information you were
8 giving them was accurate?

9 MS. XIDIS: Objection to form.

10 A I think I've described what steps we took to 12:11PM
11 assure the accuracy of the information in the
12 questionnaire.

13 Q You relied on the scientific team for the
14 State?

15 A That's right. 12:12PM

16 Q If a respondent has no information of a
17 certain environmental situation, how can he hold a
18 true value for that environmental commodity?

19 MS. XIDIS: Objection to form.

20 A I guess it depends on what you mean by no 12:12PM
21 information. As I explained before, in surveys when
22 you ask people about any issue, whether they are
23 environmental issues or other issues, they have
24 various ways of coming up with an answer to the
25 question. Sometimes they have a carefully 12:12PM

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1 formulated preexisting opinion that exactly maps on
2 to the question. I think that's probably the
3 minority of cases.

4 Other times they think about the issue, given
5 what they already know about it, given that the 12:13PM
6 information they just heard in the questionnaire and
7 they consult their values and their other beliefs
8 and they develop or formulate a response to the
9 question, drawing on what they already know and
10 drawing on the information that they haven't had in 12:13PM
11 the questionnaire.

12 Q Can you tell me what utility function means?

13 A That's for the economists.

14 Q You can't tell me that?

15 A Not really. 12:13PM

16 Q Okay. If a respondent comes into the survey
17 room and doesn't know anything about an injury to
18 Tenkiller Lake or the Illinois River, how can that
19 respondent experience a loss from an injury the
20 respondent doesn't know anything about? 12:14PM

21 MS. XIDIS: Objection to form.

22 A I think people can have values about
23 situations they're not aware of, and when they
24 become aware of them, they formulate their views and
25 can have preferences about those situations. 12:14PM

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1 So, you know, you hear about torture in Sudan
2 or something. You may not have known about it but
3 you're not indifferent to it either. You have
4 values that are relevant to the situation, and as
5 you become aware of it, you express those values. 12:14PM

6 **Q** And it's important as I develop those
7 values --

8 **A** Express those values.

9 **Q** -- express those values or develop those
10 values internally, that the information I'm 12:14PM
11 receiving about the situation in Sudan is accurate;
12 correct?

13 MS. XIDIS: Objection to form.

14 **A** You're forming an opinion about what's
15 described to you. 12:15PM

16 **Q** I'm forming an opinion about what's described
17 in the survey materials or in the hypothetical you
18 gave me about the situation in Sudan?

19 **A** That's right, that's right. So your opinion
20 is based on that information and preexisting 12:15PM
21 information that you have and your values and
22 believes.

23 **Q** And so the opinion that I form about the
24 situation in Sudan, if I knew nothing about it
25 before, is based on the information that is provided 12:15PM

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1 to me about the situation in Sudan?

2 **A** It's based in part on the information you get,
3 plus preexisting information you have. I mean,
4 nobody is a blank slate.

5 **Q** Right. 12:15PM

6 **A** You have views about Africa or other things
7 that are relevant that might factor in as well.

8 **Q** Okay, and the same would be true with respect
9 to this survey. For those people who knew nothing
10 about the injury before they walked into the survey 12:15PM

11 room, they are forming their opinions based on the
12 factual information that's provided in the survey,
13 as well as all these other biases and judgments that
14 they have when they walk into the interview room;
15 right? 12:16PM

16 **A** Other considerations.

17 **Q** Thank you.

18 **A** Not necessarily biases. Their beliefs and
19 values and so on. I don't know that there was
20 anybody in the survey who didn't have some knowledge 12:16PM
21 of our situation.

22 **Q** Did you test for that?

23 **A** I don't recall which specific questions we
24 asked looking at that, but there were very few
25 people in the focus groups who had zero information, 12:16PM

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1 and as you can see from Items 14 and 15, over half
2 the sample had been to the river and lake. So
3 people seemed to have some base of information prior
4 to being in our survey.

5 Q Okay. In the hypothetical that we were 12:17PM
6 talking about with respect to the Sudan, are the
7 values that are created during --

8 A I never said values were created during.

9 Q Okay. Well, I mean, we've got a situation, a
10 hypothetical situation where I know nothing about 12:17PM
11 the Sudan and someone starts telling me about it,
12 and as that process goes on, I'm making judgments
13 and reaching conclusions; correct; is that fair?

14 A Yeah.

15 Q What's going on in my head, and at a certain 12:17PM
16 point I'm creating a value judgment about the
17 situation in the Sudan. I'm reaching a conclusion,
18 it's bad or it's good or whatever that conclusion
19 is. Are those values that are created during that
20 process valid values if the information I'm being 12:17PM
21 provided about the Sudan is inaccurate?

22 MS. XIDIS: Objection to form.

23 A First of all, I don't like the idea that
24 values are created. There's a chapter in my book
25 about how people answer attitude questions, and it 12:18PM

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ROGER TOURANGEAU, PhD, 4-8-09**142**

1 talks about different routes they come up with
2 answers, and one route is they reason from the top
3 down, that they have sort of high level values or
4 ideological predispositions that affect how they
5 evaluate a given situation, but the -- I take it for 12:18PM
6 granted that they come into the survey with those.

7 So I don't see surveys as creating values,
8 rather I think people formulate answers to
9 questions, drawing on various material, and among
10 the information they draw on is information that's 12:18PM
11 in the questionnaire, and if they drew on other
12 information, they might come to a different
13 conclusion.

14 Q It's true, is it not, that there's a lot of
15 psychological literature on how people construct 12:19PM
16 their preferences?

17 A It is true.

18 Q What does that psychological literature state
19 about how people construct their preferences?

20 MS. XIDIS: Objection to form. 12:19PM

21 A Yeah. I'm not comfortable summarizing the
22 literature on preferences. I'm comfortable on
23 summarizing the literature on how people answer
24 attitude questions, and if you want that little
25 lecture, I'm happy to give it, but that's what I'm 12:19PM

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1 comfortable talking about.

2 **Q** So you're not comfortable testifying about the
3 psychological literature?

4 **A** I'm comfortable testifying about the
5 psychological literature on how people answer survey 12:19PM
6 questions, including attitude questions. There's
7 some overlap between that and the construction of
8 preferences literature, but I'm not here to testify
9 about that.

10 **Q** You're not an expert in the construction of 12:20PM
11 preferences?

12 **A** I wouldn't say I'm an expert on the
13 construction of preferences.

14 **Q** Okay. You did not include a no answer option
15 in this survey; right? 12:20PM

16 **A** That's true. We didn't include an explicit no
17 answer option.

18 **Q** And the NOAA panel recommends that you include
19 a no answer option in these types of surveys; right?

20 **A** The NOAA panel did recommend that. 12:20PM

21 **Q** Why did you choose not to include that?

22 **A** Research that's come out since the NOAA panel
23 indicates that if you give an explicit no answer
24 option, then some people who would give perfectly
25 valid responses opt out by taking the explicit no 12:20PM

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1 answer option instead, so that you lose information
2 about the respondents' preferences.

3 Q Have you read Harrison's review and reanalysis
4 of the Krosnick, et al, research on the no answer
5 option?

12:21PM

6 A I have not.

7 Q Not familiar with that article?

8 A I saw it cited but I've not read it yet.

9 Q Do you know what it says, I mean, just
10 generally?

12:21PM

11 A Yeah. I know generally it questions
12 Krosnick's conclusion. On the other hand,
13 Krosnick's -- the Krosnick, et al, paper is based on
14 an elaborate literature review, not on a single
15 study, and I'm confident that even after reading the
16 Harrison paper, it won't change my mind, but we'll
17 see. I haven't read it yet and I shouldn't
18 speculate on how I'll react.

12:21PM

19 Q What is the risk to the survey results if the
20 respondent is in a hurry to end his interview?

12:22PM

21 A I don't know. It could be that they again
22 give perfectly valid information more quickly.

23 Q No literature on that that you're aware of?

24 A There are some findings that suggest that
25 people don't remember as much when they don't take

12:22PM

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1 as much time, but this isn't a survey that places a
2 heavy burden on people's memory. So if I asked you,
3 for example, about your doctor visits in the last
4 six months, you might forget more of them if you
5 answer quickly than if you take your time, but this 12:22PM
6 isn't that kind of survey.

7 **Q** How about what is the risk to the survey
8 results if the respondent is bored during the
9 survey?

10 **A** I don't know. 12:22PM

11 **Q** Any literature on that?

12 **A** I don't know that there's any literature on
13 that. I suspect the average survey respondent is
14 occasionally bored, not to mention the average
15 deponent. 12:23PM

16 **Q** I think we need to make a tape change.

17 VIDEOGRAPHER: We're off the Record at
18 12:22 p.m.

19 (Following a lunch recess at 12:22
20 p.m., proceedings continued on the Record at 1:07
21 p.m.)

22 VIDEOGRAPHER: We're back on the Record at
23 1:07 p.m.

24 **Q** Dr. Tourangeau, are there any guidelines or
25 standards that exist for response rates? 01:08PM

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1 **A** The Office of Management Budget has a
2 guideline for doing non-response bias studies when
3 response rates go below a certain figure.

4 **Q** What figure?

5 **A** 80 percent I think. 01:08PM

6 **Q** You said they have a guideline for doing
7 non-response --

8 **A** Bias studies.

9 **Q** Bias studies, okay. So what's involved in a
10 non-response bias study? 01:09PM

11 **A** It's an effort to see whether the failure to
12 obtain responses from all the samples cases
13 produces -- has an impact on the estimate that comes
14 out of the survey.

15 **Q** Did you conduct a non-response bias study in 01:09PM
16 connection with this survey?

17 **A** We did two of the kinds of studies recommended
18 by OMB.

19 **Q** What did you do?

20 **A** Looking in Appendix E. We report the analyses 01:09PM
21 we did. I don't have it in front of me, but I can
22 summarize what we did.

23 **Q** Okay.

24 **A** We compared the sample with known -- with
25 population figures for the State on certain 01:10PM

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ROGER TOURANGEAU, PhD, 4-8-09**147**

1 demographic variables. We looked to see whether the
2 distribution of the sample mirrored that in the
3 population. We did a second kind of analysis where
4 we compared respondents who completed the survey
5 early during the field period with ones who came in 01:10PM
6 later, and we also looked at respondents who
7 completed the survey with relatively little effort
8 versus those who required more callbacks. So we
9 were looking at a trend over time among the
10 respondents who came into the survey. 01:10PM

11 **Q** What was the final response rate for this
12 survey?

13 **A** It was about 56 percent unweighted, about 52
14 percent weighted.

15 **Q** What steps do you think you could have taken 01:11PM
16 to have received a higher response rate?

17 **A** I think an important reason why we didn't get
18 a higher response rate in this survey was because
19 the field period wasn't very long. So we could have
20 stayed in the field for a longer period of time. 01:11PM

21 That would have enabled us to do more callbacks and
22 more refusal conversion attempts and so on, and that
23 probably would have boosted the response rates. I
24 think that was probably the primary factor in our
25 not getting a higher response rate, the relatively 01:11PM

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1 short field period.

2 Q How long was the field period?

3 A Let me double-check. I think we were out of
4 the field on December 8th but let me check. We were
5 in the field from September 20th to December 8th, so
6 two and a half months.

01:12PM

7 Q Do you think that the time the survey was in
8 the field was adequate?

9 A We're happy with the way the survey came out.
10 So given the deadlines we faced, we feel like this
11 is a good survey.

01:12PM

12 Q Why was the survey in the field for only two
13 and a half months as opposed to three months or four
14 months?

15 A Well, there was a hard deadline for us turning
16 in our report, and that was a big factor in our
17 schedule.

01:12PM

18 Q Why did you not start the field survey until
19 September 20th?

20 A We were working on the questionnaire still.

01:13PM

21 Q It just took you time to develop the
22 questionnaire until September 20th?

23 A That's right.

24 Q You believe that you would have received a
25 high response rate had the survey been in the field

01:13PM

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1 longer?

2 **A** Yes.

3 **Q** What are the consequences, if any, of the low
4 response rate in this survey?

5 **A** I wouldn't characterize the response rate as 01:13PM
6 low.

7 **Q** Okay.

8 **A** Lots of surveys have much lower response rates
9 than 52 percent, 56 percent unweighted. We looked
10 to see if there were any consequences on the 01:13PM
11 results, and we couldn't find any. That's the gist
12 of what we found in Appendix F.

13 **Q** Why does the OMB in Circular A4 state caution
14 should be used in assessing the representativeness
15 of the sample based solely on demographic profiles? 01:14PM

16 **A** I'm just getting a drink of water. Sorry.
17 The key to whether or not non-response has affected
18 the results of a survey are the survey outcomes.
19 Unfortunately, because you don't have the survey
20 outcomes for the non-respondents, it's often very 01:14PM
21 difficult to assess the full impact of non-response
22 on the results, and so, you know, relying on any
23 single method actually can lead to misleading
24 results. We did a couple of standard -- we used a
25 couple of standard tools for assessing non-response 01:15PM

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1 bias recommended by OMB. We didn't rely exclusively
2 on a demographic comparison between our sample and
3 the state population.

4 Q Compared to other surveys you've been involved
5 in, how does this study's handling of non-response
6 bias compare?

01:15PM

7 A I would say that this study was more careful
8 in assessing non-response bias than most of the
9 studies I've worked on.

10 Q Tell me the basis for that statement.

01:15PM

11 A Most studies I've worked on haven't done the
12 non-response bias at all. This is a relatively new
13 thing that surveys are doing and so most of the
14 studies I've worked on, they haven't attempted to do
15 this.

01:16PM

16 Q When you say most of the studies, are you
17 talking about contingent valuation studies or any
18 studies?

19 A I'm talking about all the studies I've worked
20 on during my nearly 30 years as a survey researcher.

01:16PM

21 Q Okay. Did those studies have higher response
22 rates than this one?

23 A Some higher, some lower.

24 Q How many contingent valuation studies have you
25 been involved in?

01:16PM

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1 **A** Five.

2 **Q** What were the others other than this one?

3 **A** Four. The first one I worked on was a case
4 called the Blackbird Mine, where we were developing

5 a contingent valuation questionnaire to evaluate 01:16PM

6 damages that had been done to a river system in

7 Idaho. I worked on -- that -- that survey was

8 never fielded. The case was settled before the

9 questionnaire was actually used. I worked on a

10 couple of studies with Stratus that are ongoing, one 01:17PM

11 looking at Wright whale populations in the north

12 Atlantic and the other looking at coral reefs, and

13 then this study.

14 **Q** Have the Wright whale population studies or

15 the coral reef study been fielded? 01:17PM

16 **A** No. I've just looked at the questionnaires.

17 **Q** So is this the only contingent valuation

18 survey you've worked on that's been fielded?

19 **A** Yes. I mean, I was also a peer reviewer on

20 the California bight case but -- so I don't know if 01:17PM

21 that counts, and I was uncertain about whether the

22 correct answer was four or five.

23 **Q** In terms of contingent valuation studies, you

24 don't have any other studies you've worked on to

25 compare the response rate in this survey to those 01:18PM

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1 other studies; right?

2 **A** That's right.

3 **Q** Is there any literature on what is an average
4 response rate in a contingent valuation study?

5 **A** Not that I'm aware of. 01:18PM

6 **Q** What more do you think you could have done in
7 this study to address non-response bias?

8 **A** I don't know that there was any non-response
9 bias. We did some analyses where we looked for
10 non-response bias, and we didn't find any evidence 01:19PM

11 that there was any. So I don't know that we had to
12 do anything to address non-response bias. We
13 followed standard procedures. We used statistical
14 adjustments to the weights to correct for potential
15 biases. We did analyses to see if we could find any 01:19PM
16 biases, and so as far as I know, there were none.

17 **Q** Are there any other analyses you could have
18 done to test for biases?

19 **A** Not with the data we had.

20 **Q** Were you concerned about unobserved 01:19PM
21 heterogeneity in people's responses or preferences?

22 **A** Concerned unobserved heterogeneity, define all
23 these terms for me, please.

24 **Q** Well, you tell me. What is unobserved
25 heterogeneity? 01:20PM

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1 **A** This is a phrase that economists use, and I
2 don't have a very good handle on it I'm afraid.

3 **Q** Don't know what it means in terms of the way
4 economists use it?

5 **A** No. 01:20PM

6 **Q** Okay. Were you worried that there were
7 differences in the respondents' preferences that you
8 didn't observe based on the survey questionnaire?

9 MS. XIDIS: Objection to form.

10 **A** Yeah. Your question doesn't make any sense to 01:20PM
11 me. I'm sorry. Differences -- unobserved
12 differences in preferences among the respondents?

13 **Q** That wasn't my question.

14 (Whereupon, the court reporter read
15 back the previous question.) 01:21PM

16 **A** I wasn't worried about unobserved differences
17 in preferences among the respondents.

18 **Q** Okay. Are you confident that when you
19 adjusted for income differences, you've captured the
20 most important factor that differentiates 01:21PM
21 respondents from non-respondents?

22 **A** Let me figure out what you're referring to.
23 Can you cite something in the report that was the
24 basis for that question?

25 **Q** Well, I thought you said in answer to an 01:21PM

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1 earlier question you tested for non-response bias.

2 **A** Okay. Yeah, I did, and I described the
3 results of those analyses in Appendix E.

4 **Q** Right.

5 **A** Or F, I mean. Is that what you're referring 01:22PM
6 to?

7 **Q** That is what I'm referring to.

8 **A** I don't have in front of me a copy of that
9 appendix.

10 **Q** I think it's Appendix E. Let's take a look. 01:22PM

11 **A** F is representativeness of the sample.

12 **Q** I've handed you what's been marked as
13 Deposition Exhibit No. 11, which are I believe the
14 remaining appendices to the survey, including
15 Appendix F. Do you have that in front of you? 01:23PM

16 **A** I do, and in that appendix we describe --
17 well, why don't you ask your question? I'm sorry.

18 **Q** What did you do in that appendix?

19 **A** We did the two kinds of analyses I described.
20 We looked at the sample relative to the population 01:23PM
21 figures drawn from the American community survey.
22 We looked at age, race, sex and education -- race,
23 ethnicity and education. We didn't look at income.

24 **Q** Did you look at income in any of these
25 appendices? 01:23PM

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1 **A** We didn't look at income in connection with
2 this issue, no.

3 **Q** In connection with response bias?

4 **A** Right, non-response, the impact of
5 non-response.

01:24PM

6 **Q** Thank you. I stand corrected. Do you know
7 what social desirability bias refers to?

8 **A** Yes, I do.

9 **Q** What is that?

10 **A** The tendency for people to give answers that
11 make them look better than they really are.

01:24PM

12 **Q** How does one test for social desirability bias
13 with respect to in-person interviewing?

14 **A** Well, there's no single method that's used to
15 test for the presence of social desirability bias.
16 In order to minimize social desirability bias,
17 people -- well, people often use self-administration
18 of the questions.

01:24PM

19 **Q** By self-administration of the questions, you
20 mean that the respondent reads the questions
21 themselves or takes a self-administered survey
22 somehow?

01:25PM

23 **A** There's a variety of different methods of
24 self-administration. What they have in common is
25 that the interviewer doesn't hear the answer,

01:25PM

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1 doesn't record the answer. So it could be that the
2 respondent interacts with the computer or could be
3 that the respondent, you know, fills out the
4 questionnaire, a paper questionnaire. It could be
5 that there's a technique called the random response
6 technique where the respondent or the interviewer
7 doesn't know what the question is even.

01:25PM

8 Q How can the interviewer not know what the
9 question is?

10 A The respondent does some randomizing thing
11 like flipping a coin, and depending on the outcome
12 of the coin toss, answers one question or another
13 question, so the interviewer only hears yes or no
14 but doesn't know what that means basically.

01:25PM

15 Q So are those techniques you've described ways
16 in which one can safeguard against social
17 desirability bias?

01:26PM

18 A They're all attempts to reduce social
19 desirability bias, that's right.

20 Q Do you have understanding of what the NOAA
21 panel's intent was when they identified interviewer
22 effects as something you should test for?

01:26PM

23 A My understanding of the NOAA panel's guideline
24 on that issue is that they are concerned about this
25 very issue, that people will overreport their

01:26PM

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1 willingness to pay or at least distort their

2 willingness -- their reported willingness to pay if

3 the interviewers administer the questions.

4 **Q** How did your study comply with the NOAA

5 panel's guidelines?

01:27PM

6 **A** We looked at three things in deciding how to

7 administer the questions. We did some very

8 formal -- informal analyses based on our own

9 results. In some of the focus groups we used

10 self-administration. In some of the hotel pretests

01:27PM

11 we used self-administration. Others we didn't. We

12 had -- and this is basically impressionistic data

13 because these weren't carefully controlled

14 experiments, but we didn't see any trend in reported

15 willingness to pay as a function of whether

01:27PM

16 interviewers administered the question or the

17 questions were self-administered. So we had some

18 data from our own efforts that suggested this wasn't

19 a concern.

20 Secondly, we drew on the results of a study

01:27PM

21 that Krosnick and colleagues had done in conjunction

22 with the Montrose case, where they explicitly

23 compared self-administration, a sealed ballot box

24 procedure which is one form of self-administration,

25 versus interviewer administration, and found no

01:28PM

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1 difference.

2 Finally my graduate student, Ting Yan, and I
3 just completed a large-scale analysis of social
4 desirability bias and surveys, and based on that
5 large-scale analysis, including several
6 meta-analyses, we concluded there it was unlikely
7 there would be much social desirability bias in this
8 present context.

01:28PM

9 Q This large-scale analysis that you and your
10 graduate student did, is that published?

01:28PM

11 A That's right. It's published in the
12 Psychological Bulletin in 2007. It's on my resume.

13 Q So if I understand you correctly, based on
14 your informal analysis of the focus groups and the
15 hotel pretests and based on the Krosnick study and
16 based on your large-scale analysis with your
17 graduate student, you decided that you were not
18 going to apply the NOAA panel guidelines when it
19 comes to social desirability bias; is that fair?

01:29PM

20 MS. XIDIS: Objection to form.

01:29PM

21 A All these sources of information that we drew
22 on were post the Blue Ribbon panel. All this
23 information came after the Blue Ribbon panel
24 guideline, and so in this particular case, we
25 thought we could deviate from that guideline. The

01:30PM

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1 NOAA panel had been -- just didn't have at their
2 disposal this information that we now had. So we
3 thought we would do the best thing we could do,
4 given the information now that was now available in
5 designing this study.

01:30PM

6 **Q** Did you consider using a ballot box-type study
7 here?

8 **A** We thought about it, and we did these
9 various -- and based on these various
10 considerations, we decided against it.

01:30PM

11 **Q** Why did you decide against it?

12 **A** I guess I don't understand what -- how this
13 question is different.

14 **Q** Well, I understand that you decided not to
15 apply the NOAA panel's guidelines because you didn't
16 think it made any difference to the outcome of the
17 results. I think that's what you said but --

01:30PM

18 MS. XIDIS: Objection.

19 **Q** -- what would be the downside of using a
20 ballot box questionnaire in this circumstance?

01:31PM

21 **A** I think part of the results in the Krosnick,
22 et al, study suggested that -- the answers could be
23 less valid actually in -- if you did it the other
24 way. One potential downside to self-administration
25 is that people don't regard their answers as

01:31PM

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1 consequential as when they have to report them to
2 another person, and so there could be a downside to
3 self-administration, and since social desirability
4 bias didn't seem to be a particular concern in this
5 instance, it seemed like it was potentially not only 01:31PM
6 not worth doing but could create problems rather
7 than solve one.

8 Q Is there literature that says that people's
9 responses are not as consequential when it's a
10 self-administered survey? 01:32PM

11 A There are some papers that contain this
12 hypothesis, yes.

13 Q Did you rely on any of those papers?

14 A I have written some of those papers, so, yeah,
15 I definitely considered that. 01:32PM

16 Q Are they reflected in your CV?

17 A Yes.

18 Q Can you identify those for me?

19 A Cooper, et al, 2003.

20 Q Which page are you on? 01:33PM

21 A This is Page 3, and Tourangeau, et al, 2003,
22 on the top of Page 4, Tourangeau, Cooper and
23 Steiger.

24 Q Is that it?

25 A Yeah. 01:33PM

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1 **Q** And those are the articles you relied upon for
2 the conclusion that self-administered surveys
3 weren't as consequential?

4 **A** You know, I've just done this review with, you
5 know, Ting, Ting Yan and Tourangeau, the 2007 paper, 01:34PM
6 and, you know, I was steeped in this literature. So
7 to say I relied on any particular paper is sort of
8 hard to do. I probably cite 150 papers in
9 Tourangeau and Yin. You can count them, and so, I
10 mean, I really was steeped in this literature, and 01:34PM
11 although I'm a proponent in many contexts of
12 self-administration, in this particular context I
13 didn't see it as adding any value and agreed with
14 the concerns of some of the members of the team that
15 it might reduce consequentiality. 01:34PM

16 **Q** Were there any other concerns other than the
17 fact that it might reduce consequentiality for why
18 you chose not to use a self-administered survey
19 here?

20 **A** I can't think of anything else, no. 01:35PM

21 **Q** Can you tell me in general why survey
22 researchers offer respondents incentive payments to
23 participate in a survey?

24 **A** Repeat the question again.

25 MR. DEIHL: Can you read it back?

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1 (Whereupon, the court reporter read
2 back the previous question.)

3 **A** Just to boost the response rates.

4 **Q** What was the incentive payment used in this
5 study; do you recall? 01:35PM

6 **A** You know, I was trying to look it up
7 yesterday. I don't recall offhand. I think it
8 was -- I don't recall.

9 **Q** Let me represent to you I think it started out
10 as \$20 and then there was a kicker of \$50. Does 01:36PM
11 that sound right?

12 **A** I think that's true, but I couldn't verify
13 from that our report yesterday when I was looking at
14 this issue.

15 **Q** Do you know why two different amounts were 01:36PM
16 used?

17 **A** It's fairly common practices in surveys to
18 start out with one amount, in part because you don't
19 know what the effect of that amount is going to be,
20 and then as the field period wears on and the 01:36PM
21 response rates aren't as high as you'd like, you
22 boost the incentive in order to increase the
23 response rates. As I say, a lot of surveys end up
24 doing this.

25 **Q** Is there a bias introduced into the survey 01:36PM

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1 results with using incentive payments?

2 **A** What sort of bias?

3 **Q** Well, I don't know. Let's talk first about

4 response bias. Is there a response bias with the

5 use of survey payments -- incentive payments, excuse

01:37PM

6 me.

7 **A** My colleague, Eleanor Singer, has done a lot

8 of investigations about whether incentives change

9 the answers that people give and finds little

10 evidence that that's the case. So it doesn't appear

01:37PM

11 that the use of incentives biases people's responses

12 or affects people's responses.

13 **Q** Okay. You said she found little evidence.

14 Has she found any evidence?

15 **A** I don't know that she's found any evidence.

01:37PM

16 **Q** Okay.

17 **A** I think the consensus in the field is that

18 incentives boost response rates without affecting

19 answers.

20 **Q** Did you participate in any refusal

01:37PM

21 conversions?

22 **A** Yes, I did.

23 **Q** And did Dr. Krosnick do that as well?

24 **A** Jon did as well.

25 **Q** Why did you do that; why were you and Dr.

01:38PM

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1 Krosnick involved in the refusal conversions?

2 **A** Let me think about how this came about. We
3 were just trying to help out I think. I've worked
4 on a number of studies where the principal
5 investigator has been involved in refusal 01:38PM
6 conversion, often with institutions as the
7 respondents rather than individuals, but, you know,
8 it sometimes happens that the PIs are drawn into the
9 refusal conversion process. Jon is a very
10 persuasive person. You'll meet him, and we thought 01:38PM
11 he might be good at this, and so we volunteered to
12 help out.

13 **Q** Why didn't you just let the survey company
14 take care of the refusal conversions?

15 **A** We thought we could be of assistance to them 01:39PM
16 and help out.

17 **Q** Was their concern that you weren't getting a
18 response rate that you wanted?

19 **A** No, that wasn't the reason. We just were
20 trying to help out to push things along and, you 01:39PM
21 know, if we could to convert some of these reluctant
22 respondents.

23 **Q** We talked a little bit earlier about the
24 length of the time the survey was in the field.
25 Were you worried that you weren't getting response 01:39PM

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1 rates you needed in the length of time you had the
2 survey in the field?

3 **A** There was no sense that we needed a particular
4 response rate, you know. We -- in another world we
5 night have had a longer field period, but we were
6 happy with the results we got. We offered to help
7 out. I was kind of curious. I've never done this
8 before, so I was kind of curious about whether I
9 would be any good at it.

01:39PM

10 **Q** Is there a response rate --

01:40PM

11 **A** Let me say one other thing.

12 **Q** Sure.

13 **A** I personally contacted three respondents or
14 three potential respondents, none of whom became
15 respondents. So from the outset, it was obvious
16 that we were not going to have much of an impact on
17 the response rate. You know, attempting to convert
18 three reluctant cases is clearly not going to have a
19 huge effect.

01:40PM

20 **Q** How many did Dr. Krosnick contact; do you
21 know?

01:40PM

22 **A** I don't know offhand. He contacted more but
23 was -- didn't convert any of them either.

24 **Q** So neither of you were very persuasive?

25 **A** I guess not.

01:40PM

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1 **Q** Is there a response rate below which you would
2 believe a survey would no longer be valid; I mean,
3 10 percent, 5 percent; is there a number where you
4 would be so concerned that you wouldn't trust the
5 validity of the survey?

01:41PM

6 **A** This is a smooth function. The amount of
7 non-response bias depends on the correlation between
8 the co-variance in technical terms between the
9 likelihood of participating and the particular
10 survey variable of interest divided by the mean
11 likelihood of responding. So you can think of the
12 response rate as being the denominator and then the
13 numerator, there's the co-variance between the
14 variable of interest and the response likely. This
15 is a standard equation. It's in Bethlehem 2000
16 whatever.

01:41PM

01:41PM

17 And so what does this say? First of all, it
18 says it's a smooth function. There's no cutoff.
19 Secondly, it says even with a low response rate, you
20 can have a perfectly unbiased result if the
21 co-variance term is low. Thirdly, it says that the
22 bias or the effect of non-response bounces around
23 from one variable to another, so that you can't
24 really have a cutoff because for one variable you
25 could be perfectly okay; for another variable you

01:42PM

01:42PM

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1 can be in deep trouble. So, you know, there's no
2 simple cutoff that says, gee, below this point
3 you're hopeless; above this point you're safe. It's
4 a smooth function. It depends on those things.

5 **Q** When you actually called these three people 01:42PM
6 who you talked to to try to convert them, what did
7 you talk to them about; what do you do when you do
8 this conversion function?

9 **A** To be honest with you, I don't think -- I
10 can't really remember how many I talked to. I never 01:43PM
11 talked to any sample member. At one conversation I
12 remember was the daughter of an elderly couple. The
13 elderly couple lived at the residence the daughter
14 was visiting. She wouldn't let me talk to the
15 actual people from which we would have drawn the 01:43PM
16 sample. Another case I remember leaving a message
17 on an answering machine, and the third case I never
18 reached anybody.

19 **Q** Did you calculate the percentage of Oklahomans
20 who don't pay state income tax, or calculate is the 01:43PM
21 wrong term. Did you research the percentage of
22 Oklahomans that don't pay state income tax?

23 **A** Do you mean did we look at our survey data or
24 do you mean did we do something else besides look at
25 our survey data on this issue? 01:44PM

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1 Q Well, how did you determine the percentage of
2 people who don't pay Oklahoma State income tax?

3 A Well, we had an item in the questionnaire
4 where we asked people if they paid in the previous
5 year.

01:44PM

6 Q Okay.

7 A I also remember doing web searches looking at
8 the percentage of people who didn't pay federal
9 income taxes by state just as a benchmark to which
10 to compare our survey results.

01:44PM

11 Q And how did that benchmark compare to your
12 survey results?

13 A There was a similar percentage of Oklahomans
14 who didn't pay federal taxes to what we found in our
15 survey who didn't pay state taxes. It's not exactly
16 comparable, but the figures were similar.

01:44PM

17 Q Why were you looking at that benchmark?

18 A Just wanted to see if the survey result was
19 plausible and stacked up against an external figure.

20 Q Was there any concern that 30 some percent of
21 the respondents didn't pay Oklahoma State income
22 tax?

01:45PM

23 A We were concerned about that, and we looked at
24 several things as a result.

25 Q And why were you concerned about that?

01:45PM

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1 **A** We weren't sure that people who didn't pay
2 taxes would see this as affecting them, and so we
3 looked at -- well --

4 **Q** So the concern was people who didn't pay taxes
5 might not see this as affecting them because the
6 survey told them that this was going to be added on
7 to their state income tax bill, the bid amount?

01:45PM

8 **A** That's right. That's what the survey says.

9 **Q** Okay, and how did you account for that?

10 **A** We did various analyses, which are described
11 in the report where we looked at responses to other
12 questions. It occurred to us at a certain point
13 that the fact you didn't pay taxes last year doesn't
14 mean you don't expect to pay them next year. And so

01:46PM

15 we looked at the response to the item that says,
16 well, how much do you expect to pay if this passes
17 and do you expect to pay more or less and so on,
18 will you have a hard time paying, and those -- they
19 got responses to those items suggested that even
20 though people didn't pay last year, they seemed to
21 think they might have to pay in the future and that
22 they would have to pay the amount that we told them.

01:46PM

01:46PM

23 **Q** And how did you draw the conclusion that they
24 might -- they thought they might have to pay in the
25 future from those answers?

01:46PM

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1 **A** Well, we just looked at what they expected to
2 pay, and they said they expected to pay the amount
3 we told them, many of them or most of them.

4 **Q** Okay. Do you know if they expected to pay
5 that amount and then get it back on their state
6 income tax return at the end of the year; did you
7 test for that?

01:47PM

8 MS. XIDIS: Objection to form.

9 **A** Well, let's look at -- let's look at the
10 questions we did ask.

01:47PM

11 **Q** Sure.

12 **A** One of the questions we asked was Question 32.

13 **Q** Tell me which page you're on, please.

14 **A** I'm on the main report, 4-33. Question 32
15 reads, when you decided how to vote, did you think
16 that if the alum treatments were done, your

01:48PM

17 household would have to pay the amount I told you,
18 more than that amount or less than that amount. So
19 we asked them directly what they thought their
20 household would have to pay.

01:48PM

21 **Q** Okay. Anything else?

22 **A** We also looked at this item -- I can't find
23 it. If you look at 4-37, Question 54, how difficult
24 would it be for your household to actually pay the
25 additional tax of X dollars; would it be extremely

01:50PM

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1 difficult, very difficult, moderately difficult,
2 slightly difficult or not difficult at all. So we
3 asked them what they thought they would have to pay
4 and we asked them how hard would it be for them to
5 have to pay that amount.

01:50PM

6 **Q** And those are the questions you used to
7 determine if those Oklahoma citizens who didn't pay
8 any state income tax had the necessary
9 consequentiality associated with the bid amount?

10 **A** We used that in our construct validity
11 assessment of the questionnaire. We used that in
12 our analyses in Chapter 6 where we discussed the
13 construct validity of the results.

01:50PM

14 **Q** Okay. Dr. Tourangeau, I've handed you what's
15 been marked as Deposition Exhibit 12, which is an
16 invoice dated June 17th, 2008. Can you tell me what
17 this invoice is?

01:51PM

18 **A** It covers my work on the project during the
19 period May 21st to June 17th.

20 **Q** I note --

01:51PM

21 **A** Oh, no, this is another project. This is not
22 this project at all.

23 **Q** That was going to be my question. What
24 project is this?

25 **A** Some other project. I'm not at liberty to

01:52PM

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1 discuss it I don't think.

2 Q Okay.

3 A I'm pledged to secrecy about this one. I'm
4 not sure how this got into the Record but --

5 Q It was produced to us as part of your files. 01:52PM

6 A This was a different project.

7 Q But my question -- I won't ask about the
8 specific project, but I do want to know what other
9 work you've done for Stratus Consulting.

10 A I mentioned those previous contingent 01:52PM
11 valuation studies, so the Blackbird Mine, the Wright
12 whale, the coral reef, this study, this study that
13 you have the invoice for and one other study, a
14 study of the Hudson River. I think that's it.

15 Q Are all of those studies active at this time? 01:53PM
16 The Blackbird Mine is not; correct?

17 A The Blackbird Mine is over. The -- well,
18 actually in this particular case I don't work
19 directly for Stratus. I work for Motley Rice. So
20 the Wright whale and the coral reef I believe are 01:53PM
21 ongoing. I haven't had much to do with them in a
22 while.

23 Q How about the --

24 A The Hudson River project is long gone. It's
25 over. 01:53PM

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1 **Q** How about the Rocky Mountain arsenal
2 project --

3 **A** That's done, too.

4 **Q** -- that your invoice reflects?

5 **A** That's over, or my piece of it is over in any 01:53PM
6 way.

7 **Q** How much have you billed Stratus in connection
8 with these five projects?

9 **A** Which five? I'm sorry.

10 **Q** I have a list, Blackbird Mine, Wright whale, 01:53PM
11 coral reef, Rocky Mountain arsenal and Hudson River.

12 **A** I'd be guessing. Probably less than the total
13 for the current project.

14 **Q** Have you done additional work for Motley Rice
15 firm other than this engagement? 01:54PM

16 **A** No.

17 **Q** You said earlier that you thought some of your
18 bills early on in the project were submitted
19 directly to Stratus. Did I get that right?

20 **A** Since my agreement with Motley Rice predated 01:54PM
21 my work on the recreation study, I assume that I
22 billed Stratus for that work directly.

23 **Q** And would you have records of those invoices
24 in your files?

25 **A** I could probably find them, yes. 01:54PM

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1 MS. XIDIS: This was obviously produced in
2 error.

3 **A** This was a mistake.

4 MS. XIDIS: Can we not attach it as an
5 exhibit since this is a case he's not supposed to be 01:55PM
6 talking about? Do you really need to have this
7 Exhibit 12?

8 MR. DEIHL: Well, I would like it as an
9 exhibit. It was produced to us, and I think it's
10 appropriate for us to know what other projects Dr. 01:55PM
11 Tourangeau is working on with Stratus if it
12 demonstrates potential bias, it demonstrates that
13 Dr. Tourangeau has billed Stratus a significant
14 amount of money and --

15 MS. XIDIS: Well, it demonstrates \$1,800. 01:55PM
16 We're just asking for a courtesy. If you won't
17 withdraw, you won't withdraw it.

18 MR. DEIHL: If you want to block out the
19 mention of the name and the contract number, I'm
20 fine with that. 01:55PM

21 MS. XIDIS: All right.

22 **A** Thank you.

23 **Q** Going back to the original report, I think you
24 said at the beginning that you also had a hand in
25 drafting Chapter 7; is that correct? 7.2 I think is 01:56PM

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1 what you said.

2 **A** Yes.

3 **Q** Why don't we turn to that for a moment. What
4 did you do in connection with Section 7.2?

5 **A** I came up with a figure for the total number 01:56PM
6 of households in our study area.

7 **Q** How did you calculate that number?

8 **A** I downloaded the most recent population
9 figures that were available from the American
10 Community Survey as described in the Footnote No. 3 01:57PM
11 there. The American Community Survey is this big
12 federal survey that's used to update population
13 figures by the Census Bureau between the decennial
14 censuses, and then I made an adjustment because we
15 excluded some counties in the western portion of the 01:57PM
16 state.

17 **Q** Why did you decide to exclude those counties
18 in the western portion of the state?

19 **A** Purely for cost reasons. They're very
20 sparsely populated counties. They encompass roughly 01:57PM
21 3 percent of the Oklahoma population but they're
22 about more than 20 percent of the area. So to
23 reduce data collection costs, we decided to focus on
24 the more densely populated eastern portion of the
25 state and in effect assign zeros to this whole 01:58PM

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1 portion of the state.

2 Q Did you have a hand in drafting any portion of
3 Section 7.1?

4 A No. I may have given comments on it but I
5 didn't write it. 01:58PM

6 Q Are you prepared to testify about any
7 information in Section 7.1?

8 A No.

9 Q We talked earlier that the purpose of this
10 survey is to calculate the damages associated with 01:58PM
11 the average value placed by an Oklahoma household on
12 loss from the contingent -- continuing injuries to
13 the Illinois River and Tenkiller Lake; is that
14 correct?

15 A I think so. That was a long question. 01:59PM

16 Q It was. Why don't you tell me what you were
17 trying to calculate in this study?

18 A We were trying to estimate people's
19 willingness to pay for this recovery program that
20 would return the river and lake to its 1960 01:59PM
21 conditions.

22 Q And we talked a lot today about whether the
23 facts in the survey were accurate as presented to
24 the respondents. Do you recall that series of
25 questions? 01:59PM

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1 **A** Yes, I do.

2 **Q** And I believe you said that if you gave the
3 respondents a different set of facts, you might get
4 a different result; is that correct?

5 MS. XIDIS: Objection to form. 01:59PM

6 **A** If the respondent were presented different
7 information, if they were bidding on a different
8 recovery program or if they had a different picture
9 of the damages, yes, I would expect that they would
10 have different willingness to pay. 02:00PM

11 **Q** What's your opinion of how the overall study
12 went?

13 **A** I think it's a good study. I think it follows
14 standard procedures, and I think it was well
15 executed. I think it was a very good study. 02:00PM

16 **Q** Were there any problems associated with the
17 project?

18 **A** No noteworthy problems. Every study has its
19 little hitches but no noteworthy problems.

20 **Q** Who was Adam at Westat? 02:00PM

21 **A** Adam Chu was the main statistician involved
22 from the Westat side.

23 **Q** Did you interact with Adam Chu?

24 **A** Yes, I did.

25 **Q** In what capacity? 02:01PM

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1 **A** He was largely responsible for the selection
2 of the sample at Westat and also for the statistical
3 procedures at the end, the calculation of weights
4 for example, and so I had a fair amount of
5 interaction with him. We would, you know, discuss 02:01PM
6 how the samples should be drawn and how the weight
7 should be constructed, what the response rates were,
8 how they were coming on those calculations and so
9 on.

10 **Q** Dr. Tourangeau, I've handed you an E-mail 02:01PM
11 that's been marked as Deposition Exhibit No. 13
12 dated December 4th, 2008 between you and Adam Chu;
13 is that correct?

14 **A** Yes.

15 **Q** And in this E-mail you state, I'm sorry the 02:02PM
16 project hasn't gone better and the tone hasn't been
17 good but it's been a pleasure to work with you,
18 Roger. Why did you tell Mr. Chu that you were sorry
19 the project hadn't gone better and the tone hasn't
20 been good? 02:02PM

21 **A** I think at that particular time we'd had a
22 kind of tense project meeting, and it just wasn't a
23 good tone on that particular occasion, and I just
24 wanted to touch base with Adam and tell him that I'd
25 enjoyed working with him. I have an ongoing 02:02PM

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1 relationship with a lot of people at Westat and, you
2 know, I like to keep things cordial. They're my
3 friends and professional colleagues, and so I just
4 sent this note saying, all right, so we had a little
5 snit, let's not let it affect our relationship.
6 That's what I was trying to say.

02:02PM

7 **Q** What was the -- was there a disagreement in
8 this meeting you're talking about?

9 **A** I don't remember what the details of it was.
10 I think we might have been impatient to get these
11 lists of cases to convert or something and, you
12 know, it just was a brief snit.

02:03PM

13 **Q** Okay. Well, you didn't say in your E-mail I'm
14 sorry the meeting hadn't gone better; you said I'm
15 sorry the project hadn't gone better. Why were you
16 talking about the project?

02:03PM

17 **A** Well, I maybe should have said the meeting. I
18 mean, I didn't pretest carefully the wording in this
19 note. You know, it was just an E-mail note to my
20 friend, Adam, you know, this acquaintance, Adam,
21 that I'd worked with, and I may not -- I maybe
22 should have said the meeting have gone better.

02:03PM

23 **Q** Do you think if I talked to Mr. Chu, he would
24 think that the project had gone well?

25 **A** I think we were all pleased at the end with

02:04PM

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1 how things came out.

2 Q Do you still work with Mr. Chu at Westat?

3 A I don't have a regular relationship with him.

4 I have actually been involved with another project

5 where Adam and I were both involved, but, you know, 02:04PM

6 I probably haven't spoken or seen Adam, I don't

7 know, since January or something.

8 Q Why don't we do a tape change and I believe

9 I'm pretty close to being finished.

10 VIDEOGRAPHER: We're off the Record at 2:04 02:04PM

11 p.m.

12 (Following a short recess at 2:04 p.m.,

13 proceedings continued on the Record at 2:07 p.m.)

14 VIDEOGRAPHER: We're back on the Record at

15 2:07 p.m. 02:07PM

16 MR. DEIHL: For the Record, I don't have

17 any further questions.

18 DIRECT EXAMINATION

19 BY MR. HIXON:

20 Q Dr. Tourangeau, my name is Philip Hixon. I 02:08PM

21 represent Peterson Farms in this matter. I'll try

22 not to keep you too long. I just have some

23 follow-up questions to what was previously asked of

24 you. Earlier you testified that you attended a

25 meeting in Tulsa where there was some presentations 02:08PM

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1 by the attorneys, I think specifically David Page,
2 and presentations made by the natural scientists.
3 Can you tell me first what the presentation by Mr.
4 Page consisted of if you recall?

5 **A** I don't really remember. 02:09PM

6 **Q** Do you remember what the presentations by the
7 natural scientists were?

8 **A** They were brief PowerPoint presentations about
9 the work that they were doing.

10 **Q** And do you recall when the meeting was 02:09PM
11 approximately?

12 **A** I don't.

13 **Q** Okay. You have provided some testimony about
14 concerns with the campaign ads I think or ad
15 campaign. As part of the survey related to the ad 02:09PM
16 campaigns, did you try to isolate the impacts of the
17 Attorney General's public relations efforts in this
18 case?

19 **A** No, I don't think we did.

20 **Q** Okay. Did you review any of the materials 02:10PM
21 from the Poultry Community Council ad campaign?

22 **A** I think that's the campaign that we were
23 looking at.

24 **Q** Okay. Did you review any of those materials?

25 **A** I believe I did. 02:10PM

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1 **Q** Okay. Did you review any materials for or
2 from the Attorney General?

3 **A** I don't recall doing that, no.

4 **Q** Okay. So you wouldn't have reviewed any
5 presentations that the Attorney General might have 02:10PM
6 made to a university or programming a segment that
7 might have appeared on the local NPR affiliate,
8 those types of things?

9 **A** I don't recall reviewing any materials along
10 those lines, no. 02:10PM

11 **Q** Okay. You mentioned a couple of different
12 times that Dr. Kanninen came in late. Can you
13 explain why she came in late to the project and what
14 her role was?

15 **A** I'm not sure I used the phrase she came in 02:11PM
16 late. She came in after some of the rest of us.

17 **Q** Okay.

18 **A** She was brought in to help us in two areas.
19 One was the selection of the final bids. My
20 understanding is that she's an expert on bid design. 02:11PM
21 The other area where she was brought in to help was
22 with the analysis of the main survey data.

23 **Q** What part did she play in the analysis of the
24 main survey data?

25 **A** She was the lead analyst. She worked under 02:11PM

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1 Edward Morey's direction. So maybe the lead analyst
2 is a somewhat misleading way of putting it.

3 Q Okay. Do you recall when she became involved
4 with the project?

5 A I couldn't say a specific date, no. 02:12PM

6 Q Would it have been sometime after your August
7 2006 contract with Motley Rice?

8 A Yes. Much later than that.

9 Q Okay. We've talked at length about the
10 impacts of the assumptions and the scenario, and I'm 02:13PM
11 probably beating a dead horse with this, but it was
12 my understanding that to measure the impact and a
13 change in the scenario, you would have to conduct a
14 separate study to evaluate what that change -- how
15 that would affect the final result, the final 02:13PM
16 willingness to pay number; is that correct?

17 MS. XIDIS: Objection to form.

18 A Yeah, I'm not sure I understand the question.
19 I think to find out how people would have reacted to
20 a different set of information, you should do a 02:13PM
21 study where they get a different set of information.

22 Q Okay, and were any studies like that done in
23 this case, studies separate from the CV study?

24 A We didn't do other studies except what I've
25 described. I mean, in some of the focus groups, for 02:13PM

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1 example, we presented other information and so on,
2 and, I mean, we had some sense of, you know, I mean,
3 this is how we ended up with the final version of
4 the questionnaire. We were looking for
5 understandable material that people could accept,
6 and, you know, so we did vary things across, but no
7 formal experimentation was done where we
8 deliberately varied the information to see what the
9 impact would be.

02:14PM

10 **Q** You testified earlier that you believed that
11 the damage number that's been arrived at as a result
12 of this CV study is accurate. Can you tell me the
13 basis for your belief that that number is accurate?

02:14PM

14 **A** The overall figure given in our report is
15 based on two things. It's based on the mean
16 willingness to pay and it's based on the number of
17 households, the estimated number of households in
18 Oklahoma. I personally calculated the one number,
19 and I'm confident that it's highly accurate. We
20 used standard widely-accepted procedures for coming
21 up with the mean willingness to pay, and I'm
22 confident that that number is accurate.

02:14PM

02:15PM

23 **Q** Okay. So your belief of the accuracy is that
24 you've used standard procedures in the CV study to
25 arrive at the willingness to pay number?

02:15PM

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1 **Q** It wasn't clear. In the study there's an
2 assumption that 60 percent of phosphorus is related
3 to poultry and that 40 percent is related to other
4 sources. Okay. The assumption is the 60 percent
5 will be banned. The 40 percent -- it's assumed that 02:18PM
6 there will be no further loading from that 40
7 percent as well; is that correct?

8 **A** Right. We told them the State would take
9 other steps to reduce those loadings.

10 **Q** Okay. Were they presented with any 02:19PM
11 information regarding how much it would cost the
12 State of Oklahoma to eliminate those other 40
13 percent?

14 **A** No.

15 **Q** Is the willingness to pay -- 02:19PM

16 **A** Wait. Maybe there was an allusion. Let me
17 look at the questionnaire.

18 **Q** Okay.

19 **A** I think I can get it from Chapter 3 -- 4. The
20 other 40 percent comes from sewage treatment plants, 02:19PM
21 fertilizers bought in stores and other sources, and
22 then the State of Oklahoma is taking actions to
23 reduce the amount of new phosphorus that goes into
24 these rivers and lakes from these other sources.

25 For example, sewage treatment plants are being 02:20PM

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1 improved, and state environmental agencies will
2 enforce new rules so that other fertilizers do less
3 harm. No, we don't mention the cost to the State.

4 Q Okay. Do you believe that the statements
5 regarding the steps that will be taken with regard 02:21PM
6 to these other 40 percent, are those statements
7 accurate?

8 A I don't know.

9 Q Can you tell me what those statements were
10 based upon? 02:21PM

11 A I don't remember where we -- the -- I don't
12 remember.

13 Q You testified earlier that there was some
14 comments in the focus groups that you can't clean up
15 these issues in the river and the lake if there's 02:21PM
16 new contributions of phosphorus. Do you recall that
17 testimony?

18 A That's right.

19 MS. XIDIS: Objection to form.

20 Q Were these statements regarding this other 40 02:21PM
21 percent added to the scenario to address this
22 concern that arose in the focus group?

23 A I don't specifically remember. I think so.

24 Q We'll summarize your testimony. You testified
25 earlier that you didn't think the team was providing 02:22PM

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1 a one-sided story, that you went through a careful
2 pretesting process. Do you recall that line of
3 questions?

4 **A** Yes, I think so.

5 **Q** Did you pretest the issues regarding the 02:22PM
6 current regulations that are in place with regard to
7 the land application of poultry litter?

8 **A** I don't think we ever tested that, no.

9 **Q** Did you pretest the concept that litter, which
10 is used as a fertilizer, would be replaced with some 02:23PM
11 other source of fertilizer?

12 **A** I don't remember if we tested that. I don't
13 think so.

14 **Q** Did you pretest the effect on the willingness
15 to pay if this other 40 were not addressed and that 02:23PM
16 they continued to contribute phosphorus to the river
17 and lake?

18 **A** I can't say.

19 **Q** You talked about this concept of
20 consequentiality. If the 40 percent was not 02:23PM
21 addressed, based on your experience, how would that
22 affect the consequentiality of the willingness to
23 pay?

24 MS. XIDIS: Objection to form.

25 **A** I don't think this issue affected how 02:24PM

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1 seriously people took the scenario and whether they
2 regarded their choice, their vote as consequential
3 or not.

4 MR. HIXON: I think I'm done. Thank you.

5 MR. GRAVES: I have no questions. 02:24PM

6 MS. XIDIS: All right. We're done.

7 VIDEOGRAPHER: This concludes the
8 deposition. We are off the Record at 2:24 p.m.

9 (Whereupon, the deposition was
10 concluded at 2:24 p.m.) 02:25PM

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SIGNATURE PAGE

I, Roger Tourangeau, PhD, do hereby
certify that the foregoing deposition was presented
to me by Lisa A. Steinmeyer as a true and correct
transcript of the proceedings in the above styled
and numbered cause, and I now sign the same as true
and correct.

WITNESS my hand this _____ day of
_____, 2009.

ROGER TOURANGEAU, PhD

SUBSCRIBED AND SWORN TO before me this
_____ day of _____, 2009.

Notary Public

My Commission Expires:

02:25PM

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C E R T I F I C A T E

STATE OF OKLAHOMA)
) ss.
COUNTY OF TULSA)

I, Lisa A. Steinmeyer, Certified
Shorthand Reporter within and for Tulsa County,
State of Oklahoma, do hereby certify that the above
named witness was by me first duly sworn to testify
the truth, the whole truth and nothing but the truth
in the case aforesaid, and that I reported in
stenograph his deposition; that my stenograph notes
were thereafter transcribed and reduced to
typewritten form under my supervision, as the same
appears herein.

I further certify that the foregoing 191
pages contain a full, true and correct transcript of
the deposition taken at such time and place.

I further certify that I am not attorney
for or relative to either of said parties, or
otherwise interested in the event of said action.

WITNESS MY HAND AND SEAL this 21st day
of April, 2009.

LISA A. STEINMEYER, CRR
CSR No. 386

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